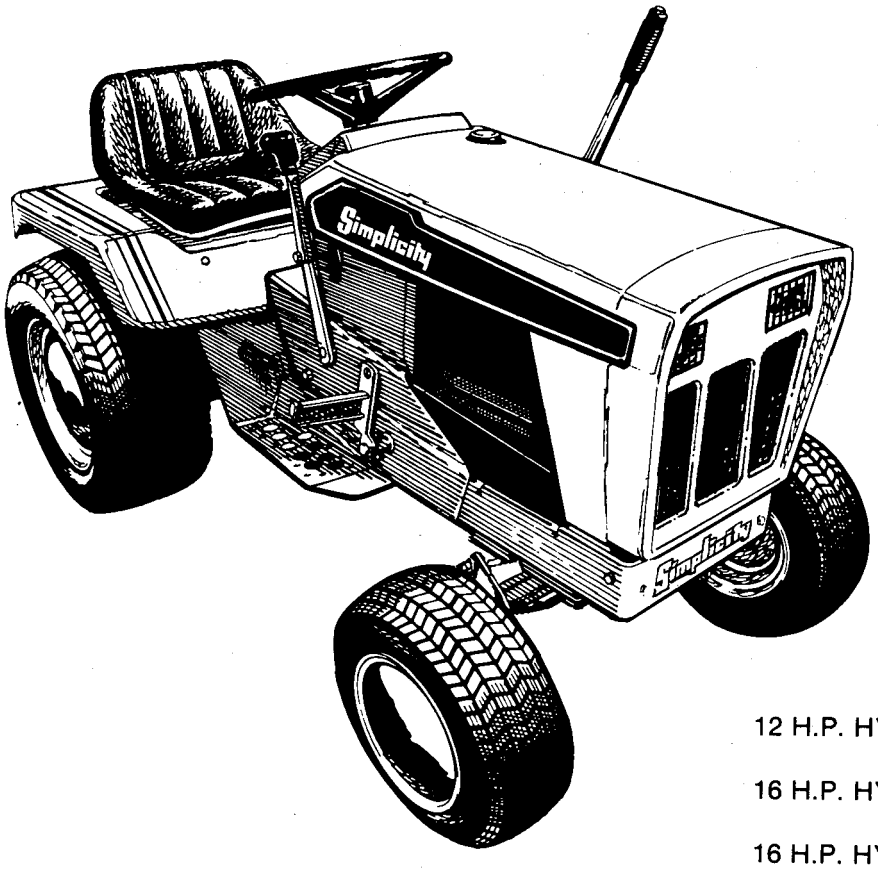
Simplicity®
AN ALLIS-CHALMERS COMPANY

OPERATOR'S MANUAL MODELS 7012H & 7016H



12 H.P. HYDROSTATIC TRACTOR
MFG. NO. 1690352
16 H.P. HYDROSTATIC TRACTOR
MFG. NO. 1690342
16 H.P. HYDROSTATIC TRACTOR
W/TURF TIRES
MFG. NO. 1690427
16 H.P. HYDROSTATIC TRACTOR
W/AGRICULTURAL TIRES
MFG. NO. 1690429

CAUTION: Read Manual Thoroughly Before Operating Tractor

FORM - 1663302-02
PRINTED IN U.S.A.
787

Dear Customer,

Congratulations on your selection and purchase of this tractor. It has been carefully designed and constructed to provide you with years of dependable service. This tractor has been built to meet or exceed current Outdoor Power Equipment Institute (OPEI) safety standards, according to American National Safety Institute (ANSI) Safety Specification B71.1b - 1977, and has been certified by an independent testing laboratory. With proper use and care, this tractor will help you do all your jobs efficiently.

To ensure yourself of the utmost value and performance from this tractor, read this manual carefully. Make sure that your tractor is adjusted properly and operated correctly. Be sure that you (and anyone who operates this machine) know how to use the machine safely. Be thoroughly familiar with all controls and procedures before actual operation.

Also, carefully read and follow the safety rules in this manual and those in your attachment manuals. Review this safety information often; it is there for your benefit and it is important.

This manual provides you with step-by-step operation, normal care, troubleshooting, and adjustment procedures for your tractor. If help is needed with any of these procedures however, your dealer will be happy to assist you.

Measurements are given in this manual with metric equivalents in parentheses. For example, behind the measurement 1/8 inch will appear: (3 mm). So, the metric equivalent of 1/8 inch is 3 millimetres.

These metric measurements are provided for your convenience as an aid in converting to the metric system. A list of metric terms and abbreviations is given below.

LIST OF ABBREVIATIONS OF METRIC TERMS

m	=	**metres**
mm	=	**millimetres**
L	=	**litres**
km/h	=	**kilometres per hour**
kPa	=	**kiloPascals**
ml	=	**millilitres**
kW	=	**kilowatts**
cc	=	**cubic centimetres**
kg	=	**kilograms**
^{o}C	=	**degrees Celsius**

© *Simplicity Manufacturing Co., Division of Allis-Chalmers Corporation, 1977*

Simplicity

7012H & 7016H Tractors

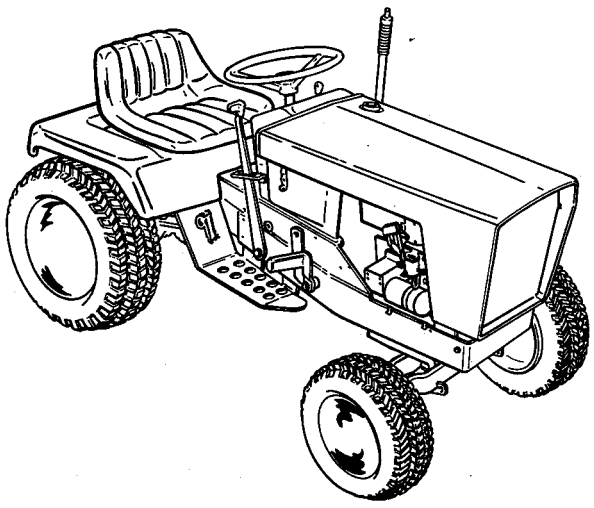


Table of Contents

SAFETY RULES 2
OWNER BENEFITS 4
ATTACHMENTS & ACCESSORIES 5
TRACTOR IDENTIFICATION 6
OPERATION 7
- CONTENT OF SECTION 7
- TRACTOR CONTROLS 7
- OPERATING PROCEDURES 8

MAINTENANCE RECORD 12
NORMAL CARE 13
- CONTENT OF SECTION 13
- SCHEDULED CARE 13
- NORMAL STORAGE 13
- OFF-SEASON STORAGE 13
- STARTING AFTER STORAGE 14

TROUBLESHOOTING 23
- CONTENT OF SECTION 23
- TROUBLESHOOTING PROCEDURES 23
- BATTERY 25
- DRIVE BELT REPLACEMENT 26

ADJUSTMENTS 27
- CONTENT OF SECTION 27
- ADJUSTMENT PROCEDURES 27

SPECIFICATIONS 31
ATTACHMENT OPERATION CHART 33
ELECTRICAL SCHEMATIC 34

WARNING

Read these safety rules and follow them closely. Failure to obey these rules could result in loss of control of vehicle, severe personal injury to yourself or bystanders, or damage to property or equipment affecting safety.

Safety Rules

⚠ *This notation preceding Cautions and Warnings in the text signifies important precautionary steps which, if not properly followed, could result in personal injury or damage to your equipment affecting safety.*

General

- Read the Operator's Manual carefully. Be thoroughly familiar with the controls and the proper use of the equipment.
- Never allow children to operate the machine. Do not allow adults to operate it without proper instruction.
- Do not carry passengers.
- Use only attachments or accessories designed for your machine. See your dealer for a complete list of recommended attachments or accessories.
- Keep the area of operation clear of all persons, particularly small children, and pets.
- Never direct discharge of material toward bystanders or allow anyone near the vehicle while in operation.
- Make sure:
  a. tractor and attachments are in good operating condition,
  b. all safety devices and shields are in place and in good working condition, and
  c. all adjustments have been made.

Preparation

- Handle gasoline with care - it is highly flammable.
  a. Use approved gasoline container.
  b. Never remove the cap of the fuel tank or add gasoline to a running or hot engine, or fill the fuel tank indoors. Wipe up spilled gasoline.
- Do not run the engine indoors. Exhaust fumes are deadly.
- Clear the work area of objects which might be picked up and thrown by attachments.
- Disengage all attachment clutches and shift into neutral before attempting to start the engine.
- Wear heavy footwear. Do not operate tractor when barefoot or when wearing open sandals or canvas shoes.

Operation

- Disengage power to attachment(s), stop tractor engine, shift into neutral, set parking brake, and remove the key before leaving the operator's position for any reason, such as to unclog attachment chutes or to make repairs or adjustments.
- Stop tractor and attachments and inspect for damage after striking a foreign object. Repair any damage before restarting and operating the equipment.
- Watch out for traffic when crossing or near roadways.

- When using the tractor with attachments, proceed as follows.
  a. Operate only in daylight or in good artifical light.
  b. Never make any adjustment while the engine is running.
  c. Check all hardware, especially mower blade mounting bolts, for tightness at frequent intervals.
- Operate only up and down the face of slopes; never across the face. Do not stop or start suddenly on slopes.
- Reduce speed on slopes and in sharp turns to prevent tipping or loss of control. Use extreme caution when changing direction on slopes.
- Be especially careful not to touch tractor or attachment parts which might be hot from operation. Allow such parts to cool before attempting to maintain, adjust, or service.
- Stay alert for holes in the terrain and other hidden hazards. Be extra careful when operating on wet or slippery surfaces.
- If equipment begins to vibrate abnormally, disengage power to attachments and stop engine at once. Inspect for damage and correct before starting up tractor.
- Use care when pulling loads or using heavy equipment.
  a. Use only drawbar hitch point.
  b. Limit loads to those you can safely control.
  c. Do not turn sharply. Use care when backing.
  d. Use weights when recommended in the tractor or attachment Operator's Manual
- Disengage power to attachment (s) when transporting or not in use.
- Take all possible precautions when leaving the vehicle unattended, such as disengaging the power take-off, lowering the attachments(s), shifting into neutral, setting the parking brake, stopping the engine, and removing the key.

Maintenance and Storage

- Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
- Do not change the engine governor settings or overspeed the engine.
- To reduce fire hazard, keep the engine free of grass, leaves, and excess grease.
- Never store the equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any enclosure.

ALL WARNING, CAUTION, and instructional messages on your tractor and attachments should be carefully read and obeyed. Personal bodily injury can result when these instructions are not followed. The information is for your safety, and it is important. The following are among those on your tractor.

CAUTION

DISCONNECT GROUND (-) TERMINAL WHEN WORKING ON ELECTRICAL SYSTEM TO PREVENT SHORT CIRCUIT

LOCATION: On Engine Near Ground Wire

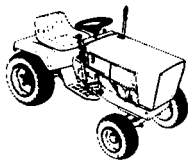
WARNING: WHEN PARKING ON HILL, SET PARKING BRAKE. DO NOT RELY ON TRANSMISSION TO HOLD TRACTOR.

LOCATION: On Top Frame Near Seat

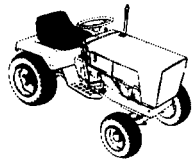
FOR YOUR SAFETY
CENTER PTO
ENGAGE
DISENGAGE
TO START ENGINE-SPEED LEVER MUST BE IN NEUTRAL AND PTO DISENGAGED.
KEEP PEOPLE AND PETS A SAFE DISTANCE AWAY FROM MACHINE.
KEEP ALL SHIELDS IN PLACE.
KEEP HANDS, FEET AND CLOTHING AWAY FROM POWER DRIVEN PARTS.
BEFORE LEAVING OPERATORS POSITION
1. Shift transmission to neutral
2. Set parking brake
3. Disengage PTO clutch
4. Shut off engine and remove key
5. Wait for all movement to stop
before servicing machine

LOCATION: On Top Frame Near Seat

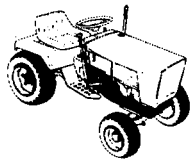
Owner Benefits



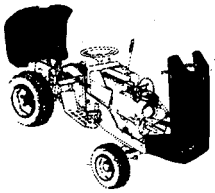
Easy steering — the all-gear steering system is designed to give reliable, fast steering for maneuverability and long life. The short turning radius allows operation around tight corners and in confined areas.



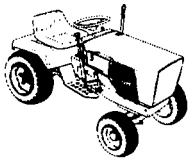
Adjustable 4-position leatherette bonded foam seat helps provide a comfortable, smooth ride.



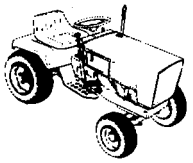
Heavy gauge electrically welded frame of sturdy channel construction takes on rugged jobs with dependable long life operation.



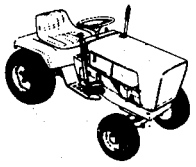
Forward tilting hood and grille makes engine compartment accessible for repairs and maintenance. Rearward tilting seat provides access to drive train.



Dependable, air-cooled, balanced engine with mechanical governor offers smooth engine performance under varying load conditions.

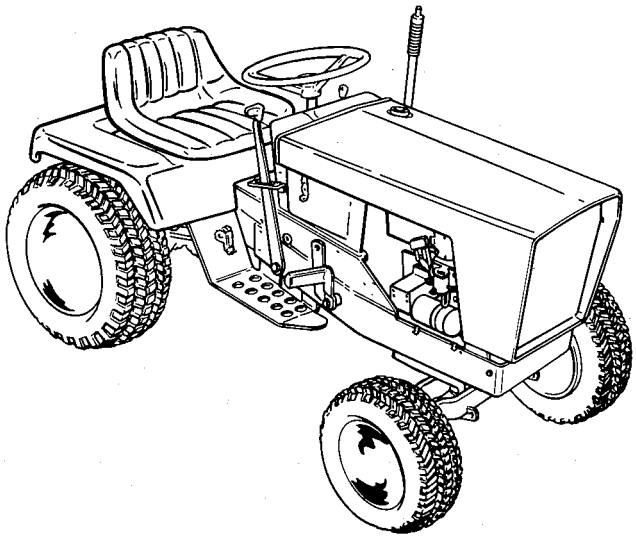


Combined clutch and brake pedal helps ensure safe starting and stopping with easy rocker action.



Large wide turf tires give comfortable ride and help protect lawns.

7012H & 7016H Tractors



Conveniently located parking brake holds tractor still when tractor is unattended.

Dash-mounted operating controls are accessible and provide quick, finger-tip response.

Hydrostatic transaxle permits selection of any speed from a slow crawl to the maximum in both forward and reverse directions.

Fast starting under most weather conditions with heavy duty 12 volt electric starter and 45 ampere, automotive rated battery. Ammeter included as standard equipment.

Limited slip differential allows traction even when one of the wheels is on a slippery surface.

Accessories

Many optional accessories are available for your tractor to help it perform better or to make it easier to operate when using various attachments. See your dealer to purchase any of the following accessories.

- WHEEL WEIGHTS
- REAR LIGHT KIT
- POWER LIFT KIT
- DUAL LIFT LEVER
- REAR LIFT KIT
- ENGINE WINTERIZING KIT
- TIRE CHAINS
- HOURMETER
- REAR BALL HITCH
- HUB CAPS

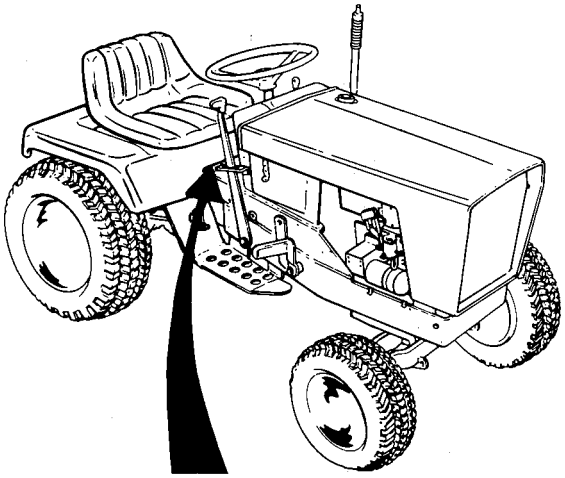
Attachments

To make your tractor more useful to you, a complete line of attachments is available. See your dealer to purchase any of the following.

- 42" & 48" ROTARY MOWERS
- P.T.O. VACUUM COLLECTOR
- 42" & 48" VACUUM COLLECTOR ADAPTERS
- ROVING NOZZLE FOR VACUUM COLLECTOR
- DUMP CART
- DUMP CART COVER
- 38" HEAVY DUTY TILLER
- 46" SICKLE BAR MOWER
- ONE POINT HITCH
- 540 RPM POWER TAKE OFF
- 36" & 42" ROTARY SNOW THROWERS
- 42" & 46" SNOW PLOW AND DOZER BLADES
- SNOW CAB
- 36" ROTARY TILLER
- 42" GRADER BLADE
- SPRING TOOTH HARROW
- CULTIVATOR
- 10" MOLDBOARD PLOW

Tractor Identification

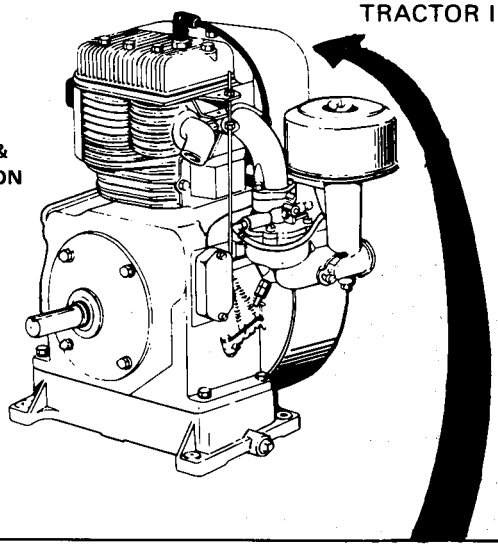
When ordering replacement parts for your tractor, be prepared to give your dealer the identification numbers found on the tractor and engine identification plates shown below. The identification plate for the tractor is located on the frame in front of the tractor seat. The identification plate for the engine is located on the engine blower housing. We suggest that you locate the numbers and record them below for easy reference.



SIMPLICITY MANUFACTURING CO.
A DIVISION OF ALLIS-CHALMERS CORPORATION
PORT WASHINGTON, WI U.S.A.
Refer to ID no. when writing or ordering parts
ID NO.

TRACTOR IDENTIFICATION PLATE

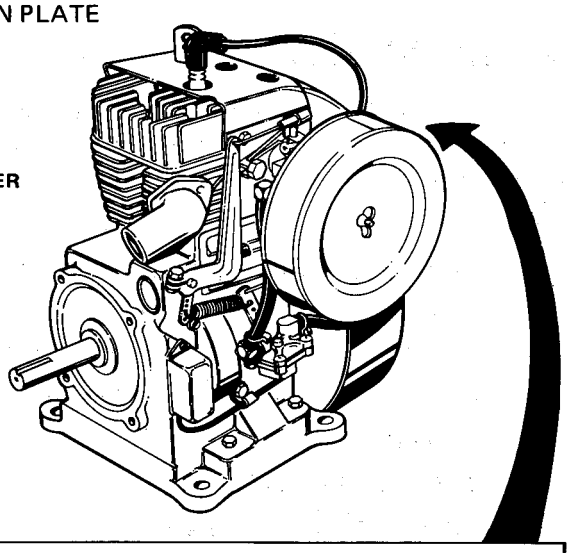
16 H.P.
BRIGGS &
STRATTON



MODEL	TYPE	CODE

7016H ENGINE IDENTIFICATION PLATE

12 H.P.
KOHLER



MODEL NO.

SPECIFICATION NO.

SERIAL NO.

7012H ENGINE IDENTIFICATION PLATE

Models illustrated in this manual may vary slightly from the model you have.

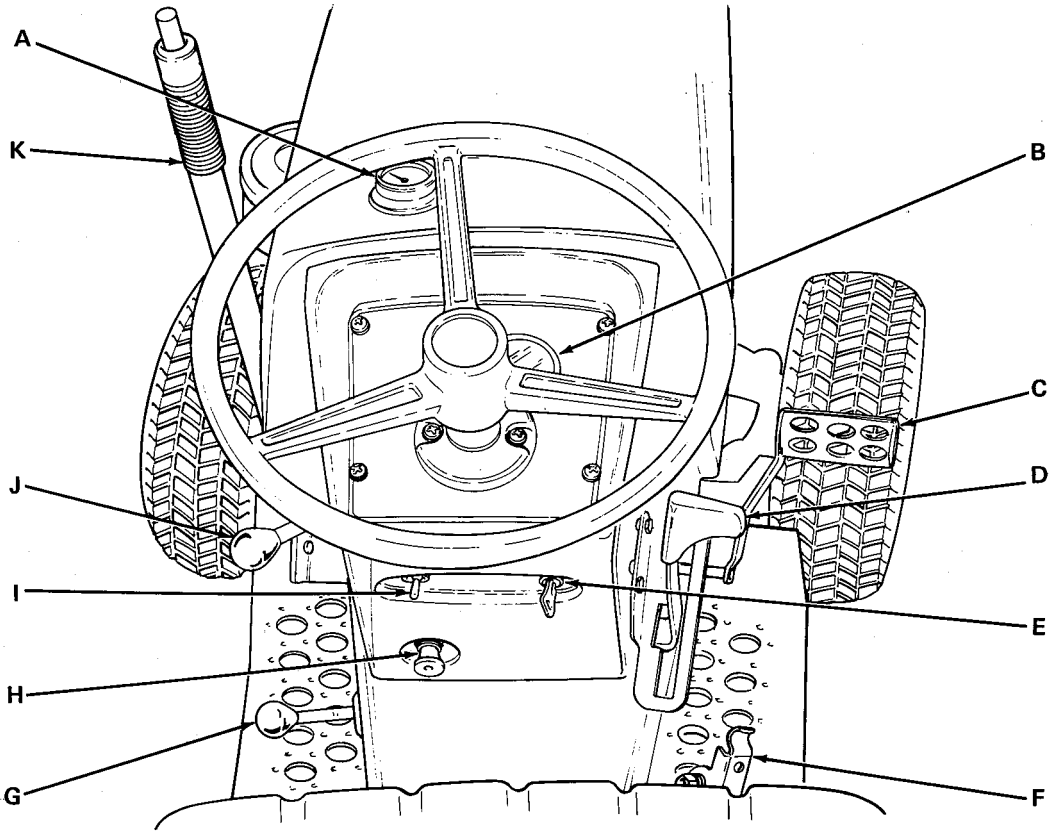
Operation

CONTENT OF SECTION

This section begins with a brief description of the tractor controls, followed by the basic tractor operating procedures.

TRACTOR CONTROLS

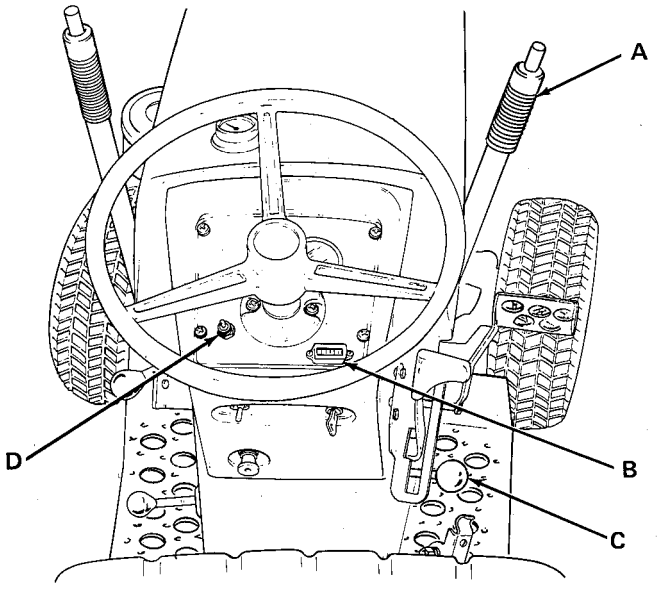
Figure 1 shows the locations, names, and functions of the standard tractor controls. Figure 2 gives the same information for optional controls.



Item	Name	Function
A	**Fuel Gauge**	Shows fuel level and serves as cap for fuel tank.
B	**Ammeter**	Shows when battery is being charged or discharged.
C	**Clutch-Brake Pedal**	Controls both main clutch and brake. Disengages clutch when pressed down at least halfway. Applies brake when fully depressed.
D	**Transmission Control Lever**	Varies amount and direction of fluid flow in hydrostatic transmission to control speed and direction of tractor motion.
E	**Ignition Switch**	Operates with key to start, run, or stop engine.
F	**Parking Brake Lever**	Locks brake to hold tractor in parked position.

Item	Name	Function
G	**PTO (Power Take Off) Clutch Lever**	Operates clutch for power driven attachments. Used to turn center and rear mounted attachments on and off.
H	**Choke Control**	When pulled out, closes engine choke for starting and warmup when engine is cold.
I	**Light Switch**	Switches tractor headlights on or off.
J	**Engine Speed Control**	Operates engine throttle to adjust engine speed.
K	**Lift Lever**	Lifts and locks attachments such as the rotary mower in transport position. Pushbutton atop lever opens lock to lower attachment to work position.

Figure 1. Locations and Functions of Standard Tractor Controls



Item	Name	Function
A	**Dual Lift Lever**	Provides lift control for front-mounted attachments. Used with standard lift lever (item K, figure 1) to provide separate control for two attachments at same time.
B	**Hourmeter**	Records tractor engine operating hour to help ensure regular care.
C	**Front PTO (Power Take Off) Lever**	Operates clutch for snow thrower attachment. Used to turn this front mounted attachment on and off.
D	**Power Lift Switch**	Controls optional electrically operated power lift. When this control is present, the lift lever (item K, figure 1) is removed. The ratchet portion of the lift lever, however, will still be present and can be used as a height indicator.

Figure 2. Locations and Functions of Optional Tractor Controls

OPERATING PROCEDURES

The remainder of this section contains tractor operating procedures. The procedures assume that the tractor is working properly. If the tractor fails to perform satisfactorily during operation, refer to the troubleshooting procedures in the Troubleshooting Section of this manual.

The procedures in this section have been arranged in the normal sequence of operations commencing with "Checks before Starting" through "Operating with Attachments." The arrangement of these procedures is intended primarily to acquaint you as the operator with the fundamental operating procedures to ensure the safe, efficient operation of your tractor. It is recommended that when operating the tractor for the first time that you make the following operational checks in sequence:

- Locations and Functions of Controls
- Checks Before Starting
- Stopping the Tractor
- Starting the Engine
- Starting Tractor into Motion
- Before Leaving the Tractor

Also, when driving the tractor for the first time, start off slowly and drive only on level ground. Get the feel of starting, stopping, and starting again. Then increase speed by moving transmission control lever and engine speed control.

After you have become familiar with all of the procedures for the tractor you should be ready to operate the attachments. Refer to the instructions in this section titled "Operating with Attachments," the attachment operation chart (figure 25), and the appropriate Operator's Manual for the attachment.

Checks Before Starting

Read this manual completely before the first use of your tractor, and thereafter as often as necessary to ensure safe and efficient tractor operation.

The following checks should be performed before starting the engine for the first time. Repeat these checks each time you use the tractor to ensure that it is ready for use.

1. Refer to Normal Care Section of this manual to determine and perform needed care. Be sure to check the engine crankcase oil level.
2. Check all nuts, bolts, screws, and pins to be sure they are in place and tight.

3. Seat yourself on the tractor. Try operating some of the controls to see if the seat position fits you. If not, see the seat adjustment procedure in the Adjustments Section of this manual.
4. Check the fuel gauge. If you need more fuel to complete the job at hand, fill the tank as follows:

WARNING

Gasoline is highly flammable and must be handled with care. Never fill the tank when the engine is hot. Do not allow open flame, smoking, or matches in the area. Avoid overfilling and wipe up any spills.

a. Remove fuel gauge cap as shown in figure 3.

b. Fill fuel tank with clean, fresh, leaded or lead-free regular grade gasoline.

c. Install and hand tighten fuel gauge cap.

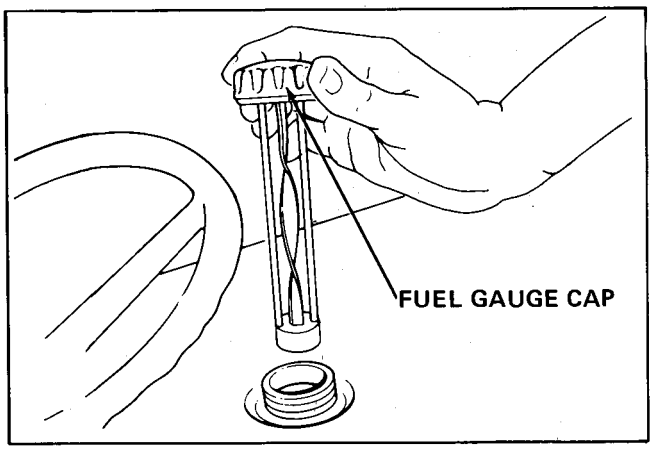


Figure 3. Fuel Guage Cap

Stopping the Tractor

In most cases, the tractor can be stopped by simply returning the transmission control lever to the neutral notch position. The clutch-brake pedal can also be used to stop the tractor. For a gradual stop on level ground, press the pedal down only far enough to disengage the clutch. For a more rapid stop, press the pedal down further to also apply the brake.

Try to avoid sudden stops on hills. Also avoid using the brake to control downhill speed. Select a low transmission control lever setting and a slow engine speed before starting downhill.

Moving the Tractor without Engine Power

Normally, the hydrostatic transmission will not allow the tractor to be pushed. To push the tractor, it is necessary to push the free wheeling latch down (see figure 4). To again engage the transmission, the free wheeling latch must be pulled up and locked.

NOTE

Towing the tractor faster than a normal walking speed or for all but the shortest distances will cause transmission damage. To avoid this, never use another vehicle to push or pull your tractor.

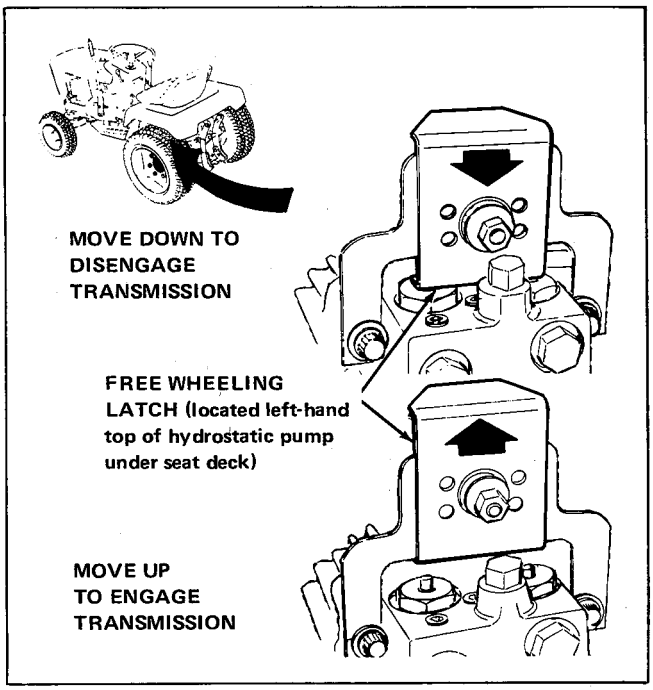

MOVE DOWN TO DISENGAGE TRANSMISSION
FREE WHEELING LATCH (located left-hand top of hydrostatic pump under seat deck)
MOVE UP TO ENGAGE TRANSMISSION

Figure 4. Free Wheeling Latch

Starting the Engine

After completing the "Checks Before Starting," proceed as follows:

WARNING

For your personal safety, do not start or run engine in an enclosed area. Exhaust fumes are deadly.

1. Seat yourself in the operator's position.
2. Set parking brake by lifting parking brake lever up and back until it rests against fender.
3. Pull choke control out fully (it may not be necessary to choke a warm engine).

4. For Briggs & Stratton engines, set engine speed control midway between SLOW and FAST (for easier cold weather starting, set the speed control to SLOW). For Kohler engines, always set the engine speed control in the idle position for starting.

NOTE

The transmission control lever must be in neutral and PTO lever in fully disengaged position before the engine will start.

5. Pull PTO clutch lever up and fully back to disengage PTO clutch.
6. Put transmission control lever in neutral notch position.
7. Press clutch-brake pedal down to disengage clutch. **Keep clutch disengaged until engine starts.**
8. Turn the ignition key to START. The electric starter should crank the engine. If not, repeat steps 5 and 6.
9. When the engine starts, release the key, It will return to the ON position for normal running.
10. Move engine speed control to SLOW position.
11. As engine warms up, push in choke control.
12. Warm up the engine for at least one minute before engaging PTO clutch or driving tractor.

Starting Tractor into Motion

This procedure describes how to safely start the tractor into motion after starting the engine.

1. Position the front wheels straight ahead. Whenever possible, the first motion should be straight forward or backward.
2. Set engine control for 1/3 to 1/2 speed.
3. Release parking brake.
4. Check that the path is clear in the direction you want to go.
5. Slowly release clutch-brake pedal to engage clutch.
6. Move transmission control lever from neutral notch position. Push it slowly forward to move forward or pull it slowly rearward to move in reverse.
7. Adjust transmission control lever and engine speed control for desired speed.

Operation on Slopes

For your personal safety, always operate your tractor up and down the face of slopes, and never across the face. Never attempt to operate on steep slopes. Be sure to use slow tractor ground speeds on slopes, and use extreme caution when changing direction on any slope. Do not start or stop suddenly on slopes.

Also, use tractor wheel weights where required or recommended for added stability and handling on slopes. See the "Operating with Attachments" chart (figure 25) at the end of this manual and your attachment Operator's Manual for wheel weight and slope information when operating with attachments.

Use two rear wheel weights when operating your tractor on slopes over 20 percent (11.3°). Never operate on slopes greater than 35 percent (19.3°), which is a 3-1/2 feet rise in 10 feet forward, and always operate in an up and down direction.

Operating with Attachments

These instructions describe a general procedure for tractor operation with attachments.

1. Be sure the attachment is properly installed and ready for use. Refer to attachment Operator's Manual.
2. Start tractor engine.
3. Raise the attachment.
4. Start tractor into motion and proceed to work site.
5. At work site, move transmission control lever to neutral notch to bring tractor to complete stop.
6. Unlock lift lever and lower attachment. To unlock lift lever, pull lever back slightly before pressing lock release pushbutton on top of lever.
7. Clear work site of any objects that might be thrown by or get caught in attachment.
8. Set engine speed control for 3/4 speed.
9. Be sure the attachment discharge is not directed toward people or pets.
10. If PTO is being used, push PTO clutch lever completely forward and down to engage attachment.

11. Adjust engine speed control to setting best suited to attachment operation. Refer to attachment operation chart (figure 25) and Attachment Operator's Manual.
12. Start tractor into motion.
13. Adjust transmission control lever to produce best tractor speed for operation of attachment.

NOTE

Complete remaining steps to return machine to storage.

14. Disengage PTO, and stop tractor motion by moving transmission control lever to neutral position.
15. Raise attachment to its highest position.
16. Resume tractor motion to return to storage site.

Before Leaving Tractor

For your safety and that of others, perform steps below before leaving tractor seat.

1. Disengage PTO and stop tractor motion by moving transmission control lever to neutral notch.
2. Set engine control to SLOW.

NOTE

Stopping a hot engine too suddenly can cause engine damage. Move engine control to SLOW and idle engine for about one minute before stopping engine.

3. Set parking brake.
4. Lower attachment.
5. Turn ignition key to OFF and remove key.

Maintenance Record

Date	Hours Used	Lubrication	Maintenance/Repair

Figure 5. Maintenance Record

Normal Care

CONTENT OF SECTION

Your tractor was designed and built to provide years of service with only minor care. Certain tasks, however, must be performed to keep the tractor in good operating condition and to avoid costly repairs. This section provides the necessary care instructions for your tractor. To service an attachment, refer to the separate manual for that attachment.

SCHEDULED CARE

A schedule for routine care is provided in figure 6. We suggest that you check the items to ensure that the tractor is ready for use. Performing these checks will also help you to become familiar with the care of the tractor.

All other scheduled care is performed after operating the tractor for a specific amount of time. See figures 7 through 15. Remember to perform the "every 25-hour check" when you perform the "every 100-hour check."

Because the schedule is based on operating time, it is necessary to determine the actual operating time. This is easily accomplished if your tractor has an optional hour meter. If not, you can determine normal times for regular jobs such as cutting your lawn. Multiply these normal times by the number of times you perform the jobs to estimate total operating time.

A Maintenance Record (figure 5) is provided on the preceding page to help you document all operating hours and maintenance repair actions.

NORMAL STORAGE

To protect your tractor, store it in an enclosed dry area. Do not store it in an enclosure where fumes from the fuel tank could reach an open flame without first running the fuel tank dry.

To store your tractor in a cold area between winter snow removal jobs, we suggest that you fill the fuel tank at the completion of each job to prevent water condensation in fuel tank. If you do not intend to use your tractor during the winter months, follow the off-season storage instructions given below.

OFF-SEASON STORAGE

When the tractor is to be stored for two months or longer, take precautions as follows:

WARNING

For your personal safety, keep open flame or spark away from flammable gasoline when working near the fuel tank. Never store tractor where gasoline fumes may reach an open flame or spark.

1. To empty or prepare fuel tank:
   a. Run tractor engine until it stops from lack of fuel, or

Care Required	See Figure	Schedule				
		Before First Use	Every 5 Hours	** Every 25 Hours	Every 100 Hours or Annually	*** Spring and Fall
Check Tractor and Engine	7	•	•			
Clean Engine and Air Filter	8			•		
Change Engine Oil*	9			•		•
Lubricate Tractor	10	•		•		
Check Fluid Levels and Tire Pressure	11	•		•		
Check Transmission Fluid	12	•			•	
Clean Battery and Cables	13			•		
Clean or Replace Spark Plug	14				•	
Repack Front Wheel Bearings	15				•	

*Change original engine oil after first 5 hours of operation.
**More often in hot (over 70°F: 21 °C) weather or dusty operating conditions.
***Only if tractor is used in both summer (over 40°F) and winter (under 40°F: 4.5 °C)

Figure 6. Summary of Scheduled Care

b. Use a gasoline stabilizer. This additive, available from your dealer, prevents formation of gum and varnish for up to one year. With the additive, fuel may remain in your tractor tank for long periods.

2. Change engine oil while the engine is still warm. (See figure 9.)

3. Remove spark plug. Pour one ounce (30 ml) of 10W-30 oil into engine through spark plug hole. Crank engine a few times to distribute oil and then reinstall the spark plug.

4. Lubricate tractor. (See figure 10.)

WARNING

Batteries contain a sulfuric acid solution which can cause serious personal injury or property damage. Use care to prevent an accidental spill of the battery acid. Do not allow the battery fluid to contact eyes, skin, fabrics, or painted surfaces.

6. Check battery fluid level. (See figure 11.) Battery life will be increased if it is removed and stored in a cool, dry place, fully charged.

7. At end of storage period, follow instructions in "Starting after Storage."

STARTING AFTER STORAGE

Before starting the tractor after a period of off-season storage, perform the following:

1. If it was removed, install battery. (See figure 13.)
2. Remove spark plug and wipe dry. Crank engine a few times to blow excess oil out of plug hole. Then reinstall the plug.
3. Fill fuel tank with fresh gasoline (unless a fuel stabilizer was used).
4. Clean engine fins and air filter. (See figure 8.)
5. Check fluid levels and tire pressure. (See figures 11 and 12.)
6. Start the engine outdoors. Do not run engine at high speeds immediately after starting.

1. Check tractor and engine for loose nuts, screws, bolts, oil leaks, etc.

2. With the tractor level, check/add engine crankcase oil as follows:

   A. Remove oil dipstick and wipe it dry.

   B. Reinstall dipstick.

   C. Remove dipstick and check oil level. Add oil if needed to full mark. **Do not overfill.** Use same weight and grade of oil used at last change. If changing oil see figure 9 for grade and weight of oil recommended.

   D. Reinstall oil dipstick.

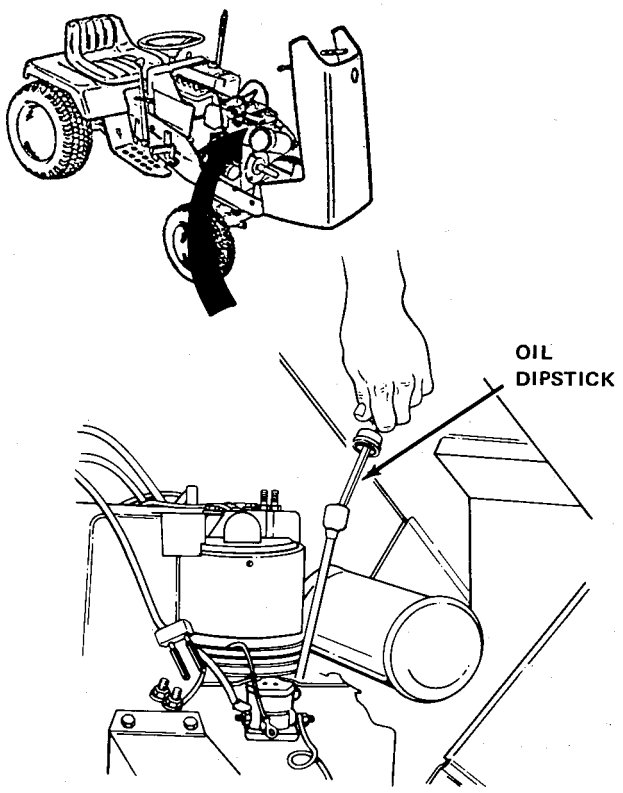
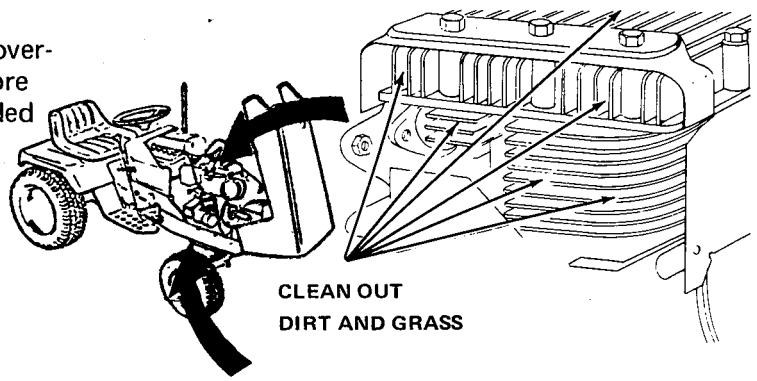


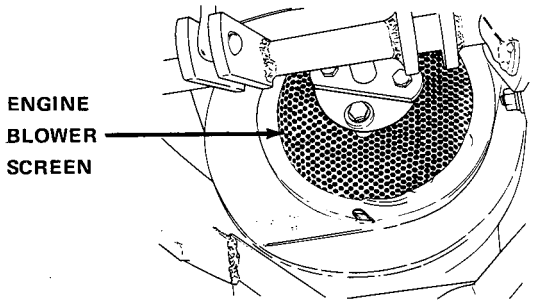
Figure 7. Check Tractor and Engine (5-Hour Care)

NOTE

Cleaning is important to avoid overheating and engine damage. More frequent cleaning is recommended after operation in dusty or muddy conditions or when cutting dry grass.

1. Clean engine grille screen as needed.
2. Clean all dirt and grass from engine fins. Remove cover as necessary.
3. Clean engine blower screen.
4. To clean air filter on the 7012H with Kohler engine:
   A. Remove wing nut and cover.
   B. Remove foam sleeve and wash it in soap and water ONLY. Rinse and allow it to air dry thoroughly. DO NOT OIL FOAM SLEEVE.
   C. Yearly or every 50 operating hours, whichever occurs first, remove and clean the paper cartridge by tapping it gently on a flat surface. If very dirty, replace cartridge. DO NOT wash cartridge in any fluid or blow dirt off with air hose.
   D. Reinstall foam, cover, and wing nut.
5. To clean air filter on the 7016H with Briggs & Stratton engine:
   A. Remove upper wing nut and cover.
   B. Remove foam sleeve and wash it with kerosene or soap and water. Dry foam thoroughly.
   C. Soak foam with lightweight oil; squeeze several times to spread oil evenly and to remove excess.
   D. Yearly or every 100 operating hours, whichever occurs first, remove and clean paper cartridge. Clean by tapping gently on flat surface. If very dirty, replace cartridge, or wash in liquid detergent and water. Rinse until water remains clear. Cartridge must be air dried thoroughly before using.
   E. Reinstall foam, cover, and upper wing nut.





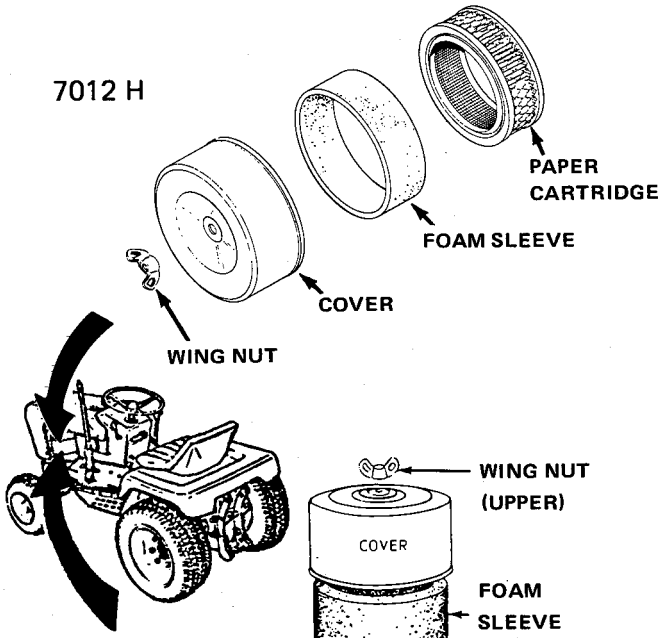


Figure 8. Clean Engine and Air Filter (25-Hour Care); or as required.

NOTE

Change oil while engine is still warm from operation. DON'T POLLUTE: Dispose of old oil properly.

1. Remove drain plug (counterclockwise).
2. Drain old oil.
3. Reinstall and tighten drain plug.
4. Remove oil dipstick.

NOTE

To avoid engine damage, use only high quality detergent oil of the correct grade and weight. The grade (service) marking on the can may be MS, SE, SC, or SD. The correct weight varies with the season as follows:

For 7012 H Kohler Engine:

Summer	Winter
(Above 30°F) Use SAE 30	(Between 0 & 30°F: - 18 &-1 °C) Use SAE 10W - 30
	(Below 0°F) Use 5W - 20

For 7016H Briggs & Stratton Engine:

Summer	Winter
(Above 40° F) Use SAE 30, or SAE 10W-30.	(Between 0 & 40°F: -18 & 4.5 °C) Use SAE 5W-20 or SAE 5W-30.
	(Below 0° F) Use SAE 10W or SAE 10W-30 diluted 10% with kerosene.

5. Add new oil until level reaches full mark on dipstick. Pour slowly and check level often with dipstick to avoid overfilling. Capacity is about 2 quarts (1.9 L).
6. Reinstall oil dipstick.

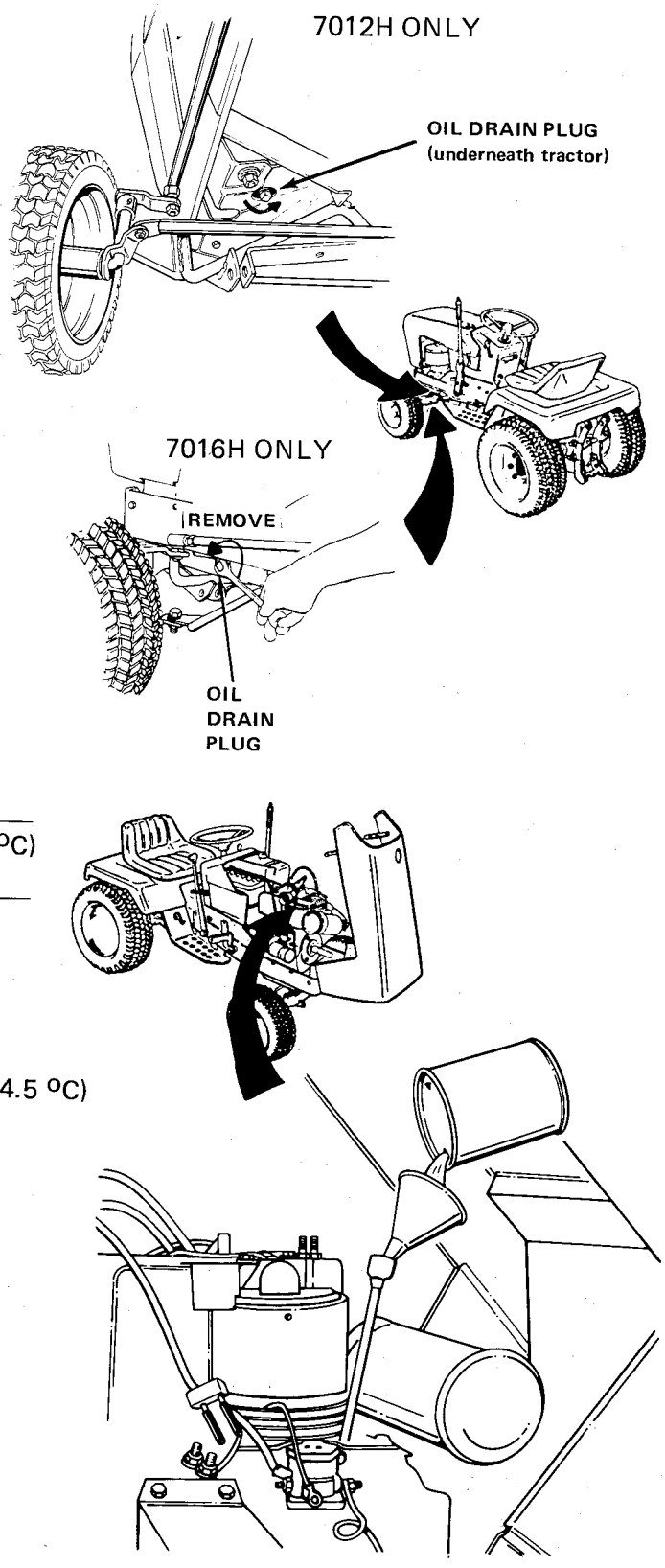
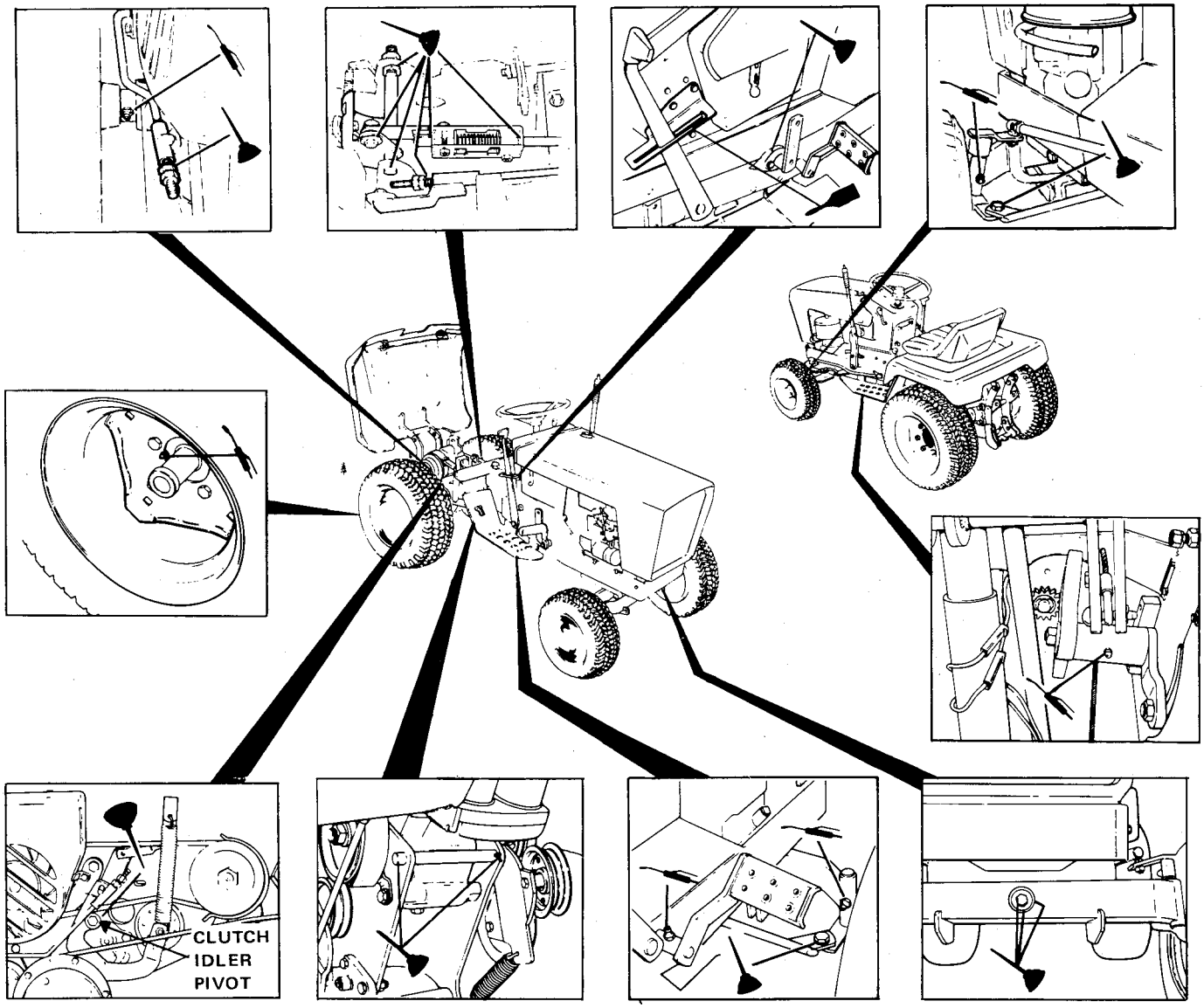


Figure 9. Change Engine Oil (25-Hour Care)



NOTE

Keep grease and oil off belts and pulleys.

Symbol	Use	Apply With	Procedure
	Lithium base automotive grease	Grease gun	1. Wipe fitting clean with rag. 2. Apply 2 or 3 shots of grease. 3. Wipe up any excess grease.
	Medium weight (SAE 30) oil	Oil can	1. Brush and wipe dirt and grass from area. 2. Apply a few drops of oil. 3. Wipe up any drips or spills.
	Lithium base automotive grease	Brush	1. Wipe area clean of old grease and dirt. 2. Apply thin film of grease with hand or brush.

Figure 10. Lubricate Tractor (25-Hour Care)

NOTE

Wait at least 10 minutes after operation before checking bevel gear box oil level.

1. Check bevel gear box oil level.

   A. Remove fill plug.

   B. The oil level should touch the tip of the fill plug when the plug is loosely installed. If not, add Simplicity lubricant (part no. 1685092), available from your dealer, or an equivalent tractor hydraulic lubricant, to tip of fill plug when it is loosely installed.

   C. Reinstall and tighten fill plug.

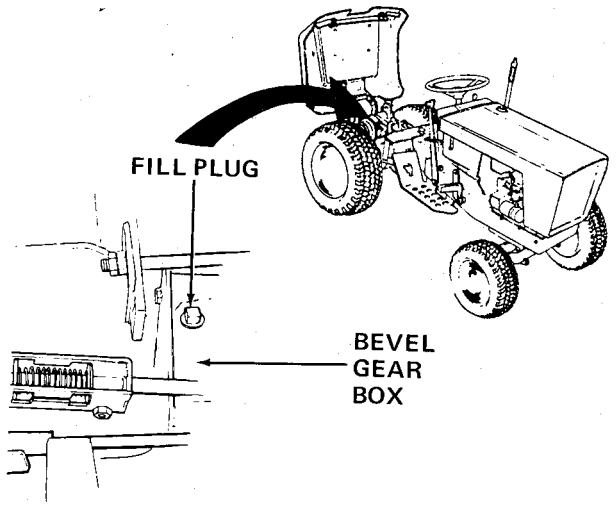
2. Check battery fluid level.

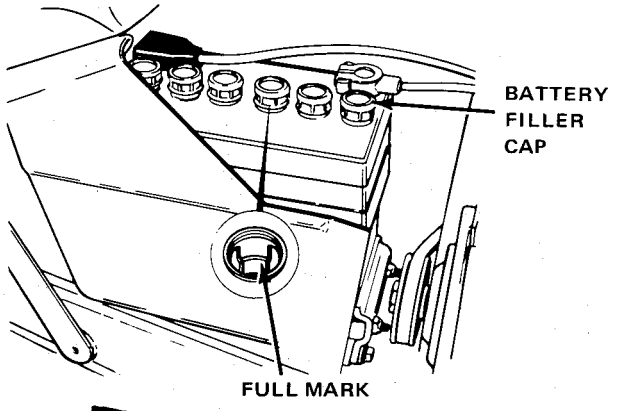
   A. Remove filler caps, one at a time.

   B. Fluid must be even with split ring full mark. If not, add distilled water.

   C. Reinstall filler caps.

3. Check air pressure of all four tires (pressures apply for both Turf and Agricultural type tires).





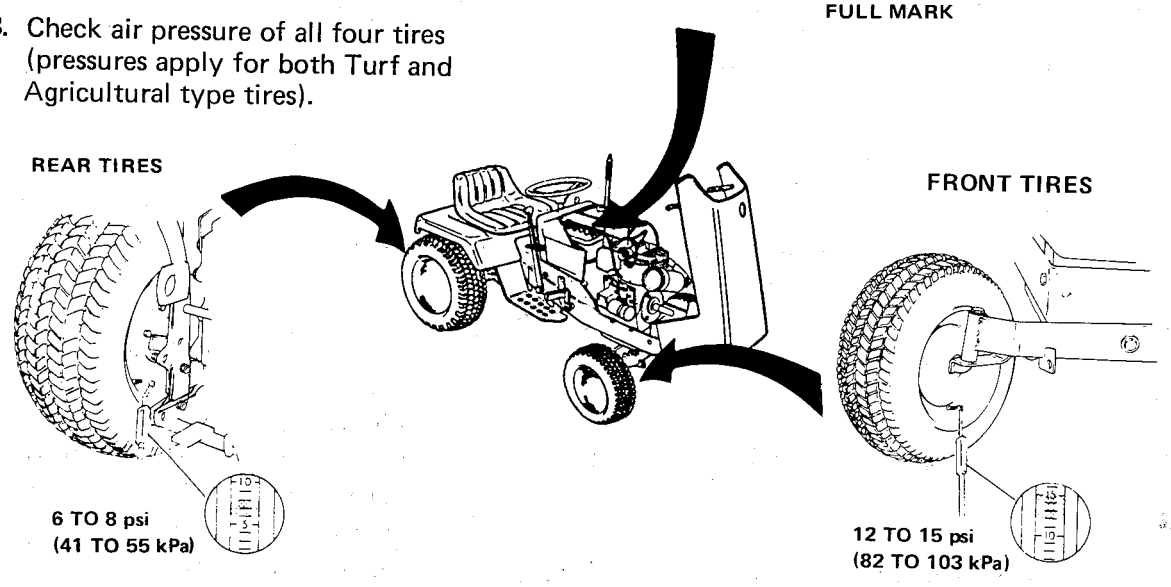
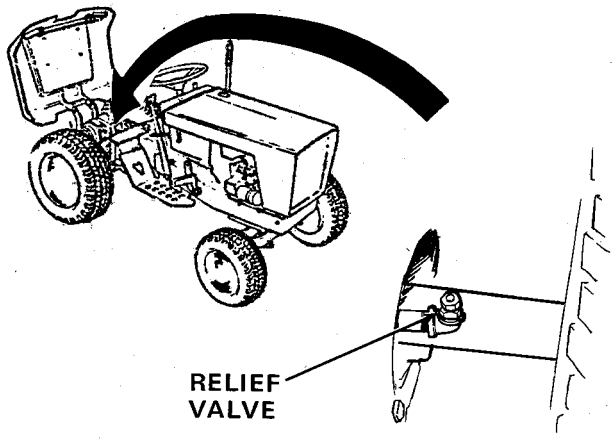


Figure 11. Check Fluid Levels and Tire Pressures (25-Hour Care)

NOTE

Check fluid when transmission is cold.

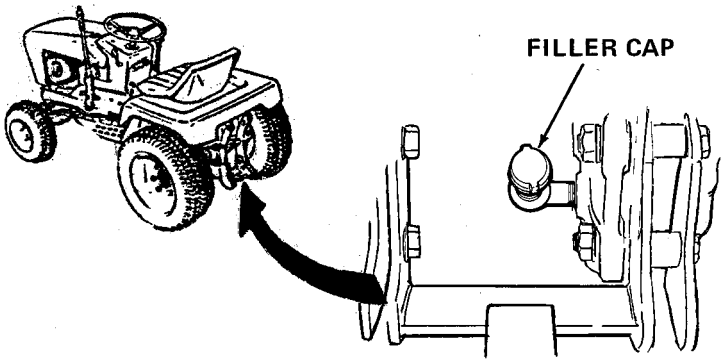
1. Wipe the transmission filler cap and filler pipe clean.
2. Remove transmission filler cap.
3. Lift and hold relief valve open.
4. Fluid should be at top of filler pipe. If it is not, add Dexron II or Type F automatic transmission fluid to top of pipe.
5. Release relief valve.
6. Reinstall and secure filler cap.



NOTE

A transmission fluid filter is visible from the bottom of the tractor. Replace this filter every 400 hours of operation or whenever changing transmission fluid. The replacement filter must have a 25 micron rating and be a full flow type without anti-drain back. (available from your dealer). Transmission fluid should be changed only when performing repair work on transmission or hydrostatic unit, or if it becomes discolored (dark brown or black) from overheating. Be especially careful that no dirt or other contaminant is allowed to enter the system.

When replacing the filter, fill it with fluid before installing it. Then wet the gasket with fluid and handtighten the filter in place. Finish adding fluid through the fill pipe as instructed above. Capacity: about 3 quarts (2.8 L). Check for leaks.

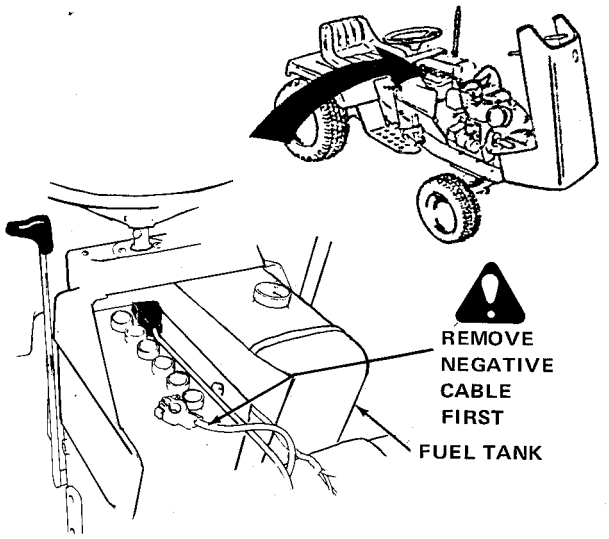


To be sure transmission is full, start the engine and then stop it again. Wait one minute. Then check the fluid level following the normal checking procedure above. Repeat this check and add fluid as needed until the level remains at the top of the filler pipe. Recheck for leaks.

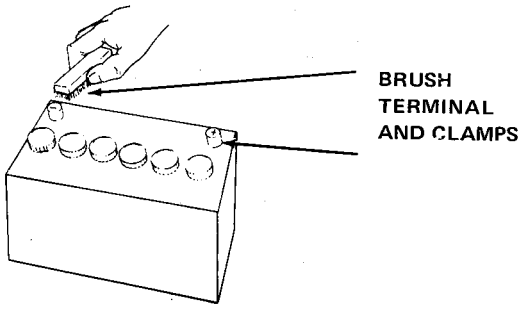
Figure 12 Check Transmission Fluid (100-Hour Care)

CAUTION

For your personal safety when removing battery cables, always disconnect the negative cable FIRST and reconnect it LAST. The positive battery terminal can be easily shorted to the tractor frame by a wrench or other tool if this is not done.



1. Remove cables, negative cable first. Lift and slide back the clamp cover to remove the positive cable.
2. Loosen battery clamp.
3. Remove battery.
4. Scrub battery, cables, and battery compartment. Use baking soda and water.
5. Clean terminals and cable clamps with wire brush.
6. Install battery and tighten battery clamp.
7. Install the positive cable and slide the clamp cover back in place.
8. Install the negative cable.
9. Coat cable clamps and terminals with grease or petroluem jelly.



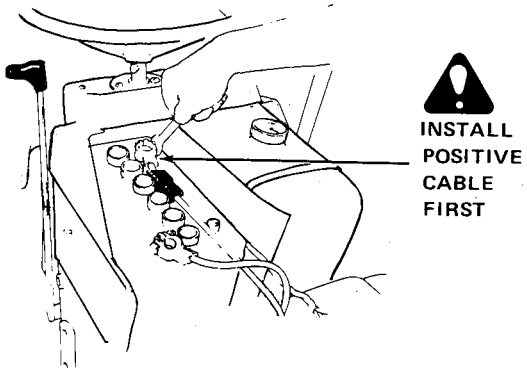


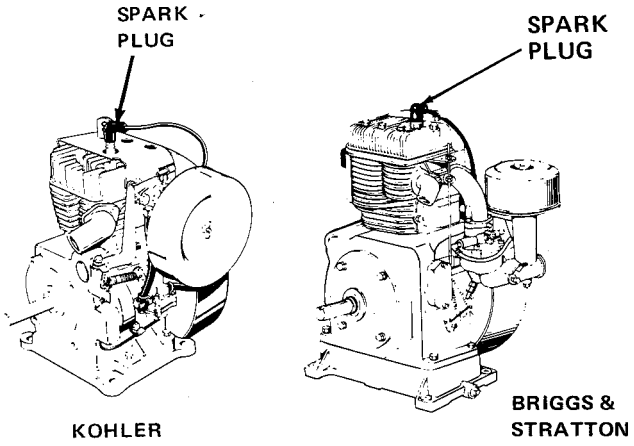
Figure 13. Clean Battery and Cables (25-Hour Care)

1. Clean or replace spark plug as follows:

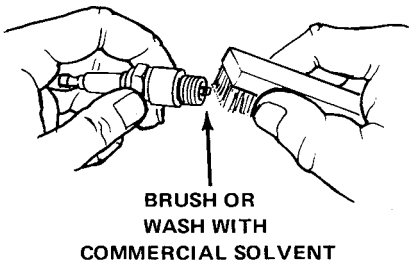
   A. Remove spark plug.

NOTE

Do not clean spark plug by sand-blasting. Sand or grit that remains on plug may damage engine.

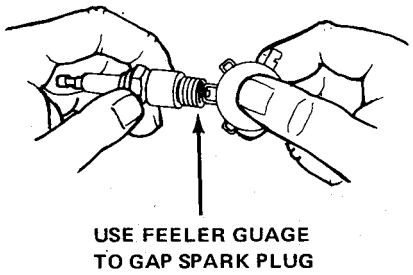


   B. Clean spark plug. If plug shows signs of defects, it should be replaced with a new plug.



   C. For the 7012H Kohler engine, set the gap at .025 inch (.635 mm).

   For the 7016H Briggs & Stratton engine, set gap at .030 inch (.762 mm).



   D. Install spark plug in engine and reconnect wire.

Figure 14. Clean or Replace Spark Plug (100-Hour Care)

WARNING

For your personal safety, block the rear wheels when raising the tractor front end. Never trust the jack alone; use jack stands or blocks in addition to the jack. Do not raise the tractor higher than need be, and do not put arms or legs under tractor.

1. Block or jack up front of tractor for wheel removal
2. Pry off grease cup with a screwdriver or a claw hammer.
3. Loosen collar setscrew using an Allen wrench.
4. Remove collar, washer and outer bearing.

NOTE

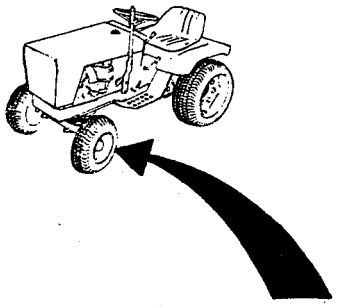
Keep the two bearings separate. Each should be reinstalled in its original place.

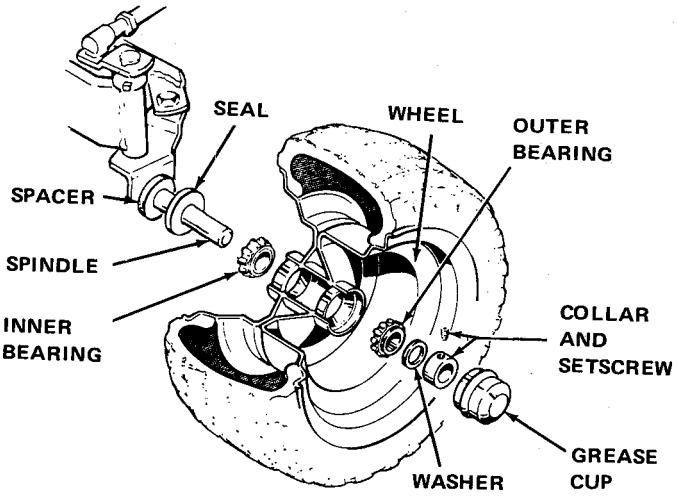
5. Remove wheel and inner bearing.
6. Wash wheel shaft, bearings, and internal part of wheel with solvent to remove all old grease. Wipe dry.
7. Inspect seal. If seal is damaged, replace it.

NOTE

Use only a prime-quality wheel bearing grease. Keep grease free of dirt.

8. Coat seal and spindle with grease.
9. Lubricate bearings completely with grease. Use hand to force grease in the spaces between bearing rollers.
10. Install inner bearing and wheel on axle.
11. Install outer bearing, washer and collar.
12. Press collar towards tractor and spin wheel slowly to seat bearings.





13. When wheel and bearings are seated and against seal, hold collar and tighten setscrew securely.
14. Test seating by attempting to wobble wheel. If wobble is more than just evident, loosen setscrew and repeat steps 13 and 14.
15. Replace grease cup and wipe up any excess grease.
16. Repeat entire procedure for other wheel.

Figure 15. Repack Front Wheel Bearings (100-Hour Care)

Troubleshooting

CONTENT OF SECTION

This section of the manual provides troubleshooting and repair instructions for the more common and easily corrected problems. For other problems, it is recommended that you contact your dealer.

WARNING

To avoid serious injury, perform maintenance on the tractor only when the engine is stopped, and the parking brake engaged. Always remove the ignition key before beginning the maintenance to prevent accidental starting of the engine.

TROUBLESHOOTING PROCEDURES

Troubleshooting procedures are provided in figure 16. To use these procedures, first locate the problem description that best describes the trouble that you have encountered. Check the possible causes one at a time in the order that they are listed. Correct any problems that are found and operate the tractor again to be sure you have eliminated the trouble.

Problem	Cause/Remedy
1. Starter motor does not crank.	A. Transmission control lever not in neutral position. Shift into neutral.
	B. PTO clutch lever(s) not disengaged. Disengage fully.
	C. Circuit breaker tripped. Wait one minute for automatic reset. Replace if defective(see your dealer).
	D. Wiring loose or broken. Visually check wiring and replace broken or frayed wires. Tighten any loose connections.
	E. Battery terminals are corroded. Clean according to Normal Care instructions (figure 13).
	F. Battery discharged or dead. Charge or replace as necessary.
	G. Starter or solenoid defective. Repair or replace.
2. Starter cranks, but engine will not start. (First check proper starting procedures for vour engine on page 9).	A. Out of fuel. Refill fuel tank.
	B. Engine flooded. Push in choke and attempt to start.
	C. Crankcase oil too heavy. If so, change oil as specified in figure 9.
	D. Spark plug faulty, fouled, or incorrectly gapped. Clean and gap or replace (figure 14).
	E. Water in fuel. Drain and refill with fresh fuel.
	F. Old stale gas. Drain fuel and replace with fresh fuel.
	G. Points worn or out of adjustment. See your engine manual.
3. Engine starts hard or runs poorly.	A. Fuel mixture too rich. Push in choke all the way. Clean air filter.
	B. Carburetor adjusted incorrectly. See your engine manual.
	C. Spark plug or points faulty, fouled, or incorrectly gapped. See figure 14 or see your engine manual.
	D. Water in fuel. Tank and lines must be drained and dried.

Figure 16. Troubleshooting Procedures

Problem	Cause/Remedy
4. Engine knocks.	A. Oil level low. Check/add oil as required. B. Using wrong grade of oil. See Normal Care Section (figure 9).
5. Excessive oil consumption.	A. Engine running too hot. Clean engine fins and blower screen. B. Using wrong weight of oil. See figure 9. C. Too much oil in crankcase. Drain excess oil.
6. Engine exhaust is black or smoky.	A. Dirty air filter. Clean air filter. B. Choke not fully open. Push in choke completely and be sure it opens fully. Check carburetor adjustment.
7. Tractor creeps forward or backward with transmission control in neutral notch position.	A. Transmission neutral setting requires adjustment. See Adjustment Section of this manual.
8. Engine runs, but tractor will not drive or lacks power.	A. Free wheeling latch pushed down. Pull latch up. B. Parking brake is engaged. Release. C. Transmission oil cold. Allow 3 minutes for warmup. D. Transmission fluid low. See figure 12. E. Drive belt slipping. See Adjustment Section. F. Kinked hydrostatic hoses. Check and correct as necessary. G. Transmission filter leaking. Check and tighten as necessary. H. Clutch idler pivot sticking. Lubricate (see figure 10).
9. Drive belt slips	A. Clutch free-travel or belt tension is incorrectly adjusted. See Adjustment Section. B. Pulleys or belt greasy or oily. Clean as required. C. Clutch rod binding in guide. Oil clutch rod. D. Belt stretched or worn. Replace with correct belt.
10. Brake will not hold.	A. Brake(foot pedal or parking)is incorrectly adjusted. See Adjustment Section. B. Brake lining is worn and requires replacement. (See your dealer).
11. Tractor handles poorly.	A. Improper tire inflation. Check and correct (see figure 11). B. Wheels are spinning or slipping. Use weights to provide additional stability and traction. C. Moving too fast on slopes. Reduce speed.

Figure 16. Troubleshooting Procedures (Cont'd)

Battery Replacement

A dead battery or one too weak to start the engine may not mean the battery needs to be replaced. It may, as an example, mean that the alternator is not charging the battery properly. If there is any doubt about the cause of the problem, see your dealer. If you need to replace the battery, proceed as shown in the battery cleaning procedure (figure 13).

Jump Start With Auxiliary (Booster) Battery

Jump starting is not recommended. However, if it must be done, follow these directions. Both booster and discharged batteries should be treated carefully when using jumper cables. Follow exactly the procedure outlined below, being careful not to cause sparks.

WARNING

For your personal safety use extreme care when jump starting. Never expose battery to open flame or electric spark — battery action generates hydrogen gas which is flammable and explosive. Do not allow battery acid to contact skin, eyes, fabrics, or painted surfaces. Batteries contain a sulfuric acid solution which can cause serious personal injury or property damage. Also note the close proximity of battery and gas tank.

1. Set parking brake and place transmission in "NEUTRAL". Turn off lights and other electrical loads.
2. Remove vent caps from both the booster and the discharged batteries. Lay a cloth over the open vent wells of each battery. These two actions help reduce the explosion hazard always present in either battery when connecting a "live" battery to a "dead" battery.
3. Attach one end of one jumper cable to the positive terminal of the booster battery (identified by a red color, "+" or "P" on the battery case, post or clamp) and the other end of same cable to positive terminal of discharged battery. DO NOT permit vehicles to touch each other, as this could establish a ground connection.
4. Attach one end of the remaining cable to the negative terminal (black color, "—" or "N") of the booster battery, and the other end to a bare metal surface on the frame of your tractor AWAY FROM the battery compartment (do not connect directly to negative post of dead battery). Take care that clamps from one cable do not inadvertently touch the clamps on the other cable. Do not lean over the battery when making this connection.
5. The tractor with the dead battery should now start.

Reverse the jump starting procedure exactly to remove the jumper cables. Then reinstall the vent caps and throw the cloths away as they may have corrosive acid on them.

WARNING

Any procedure other than the above could result in: (1) personal injury caused by electrolyte squirting out the battery vents, (2) personal injury or property damage due to battery explosion, (3) damage to the charging system of the booster vehicle or of the immobilized vehicle.

Do not attempt to jump start a vehicle having a frozen battery because the battery may rupture or explode. If a frozen battery is suspected, examine all fill vents on the battery. If ice can be seen or if the electrolyte fluid cannot be seen, do not attempt to start with jumper cables as long as the battery remains frozen.

Drive Belt Replacement

If the hydrostatic drive belt (item A, figure 17) becomes worn or breaks, replace it as follows:

WARNING

For your personal safety, stop tractor engine and remove the ignition key to prevent accidental starting of the engine.

1. Tie the clutch-brake pedal down in the disengaged position.
2. Raise the tractor seat deck.
3. Remove the capscrew (item C, figure 17) and remove the belt guard assembly (item B).
4. Remove the two capscrews (item D) and the thread forming screw (item E) to remove the fan guard assembly.
5. Remove the old belt and install the new one. Make sure the belt is in all pulley grooves and is not twisted.
6. Reinstall the fan guard with the capscrews (items D) and the thread forming screw (item E).
7. Release the clutch-brake pedal and check to be sure belt is still seated in all pulleys.
8. Reinstall the belt guard (item B) so the bracket on the back side almost touches the pulley hub. Hold the guard in place and tighten the capscrew (item B).
9. Check and adjust the drive belt according to the Clutch Free Travel instructions in the Adjustment Section.
10. Lower and latch the seat deck when finished.

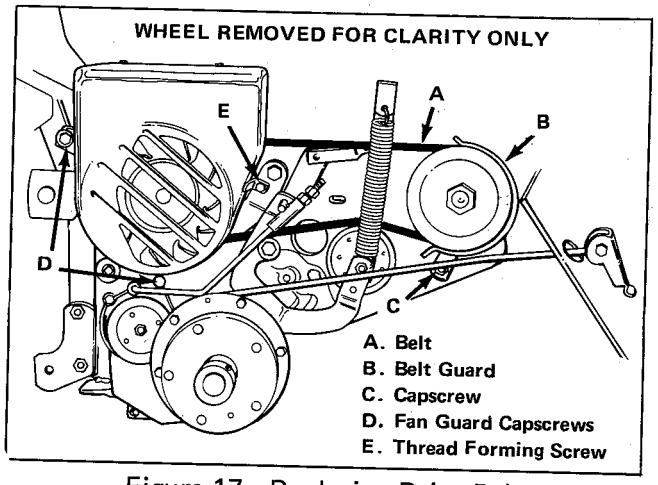


Figure 17. Replacing Drive Belt

Adjustments

CONTENT OF SECTION

This section contains adjustment procedures for the tractor and engine. The adjustments are normally performed only to correct specific problems. Because of the need for access to perform the adjustments, procedures for raising the seat deck and hood are also included in this section.

WARNING

To avoid serious injury, perform adjustment procedures on the tractor only when the engine is off and the parking brake set. Always remove the ignition key before beginning the adjustment procedures to prevent accidental starting of the engine.

Raising the Hood

The hood may be raised to the position shown in figure 18. With the hood raised, parts in the engine area are easily reached. Raise the hood as follows:

1. Pull the rubber straps (figure 18) down and away from the holddown pins.
2. Raise the hood to the position shown in figure 18.
3. When your tasks in the engine area are completed, lower the hood to its normal position. Then pull the rubber straps over the holddown pins to lock the hood in place.

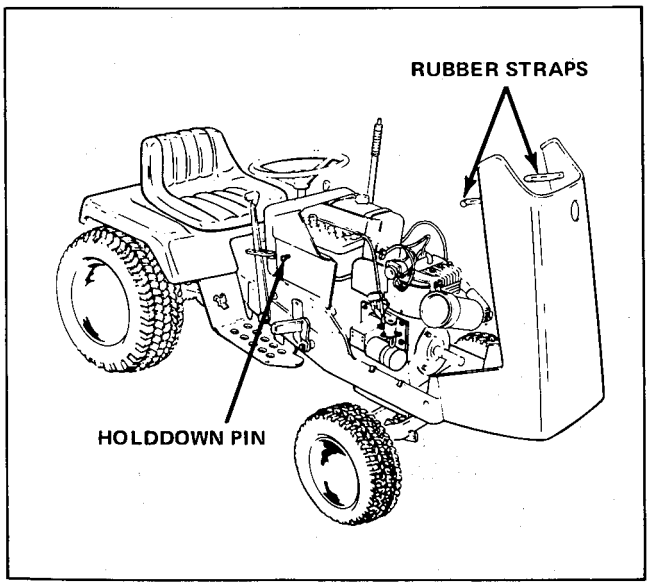


Figure 18. Raising Tractor Hood

Raising the Seat Deck

The seat deck may be raised to the position shown in figure 19. This will expose many of the transmission and clutch-brake adjustment points. To raise the seat deck, proceed as follows:

WARNING

Be sure engine is off before raising seat deck.

1. Reach under the seat deck and locate the locking levers (figure 19).
2. Press upward at the tips of both locking levers and raise the seat to the upright position.
3. When you have completed your tasks, push the seat deck down again until it locks in place.

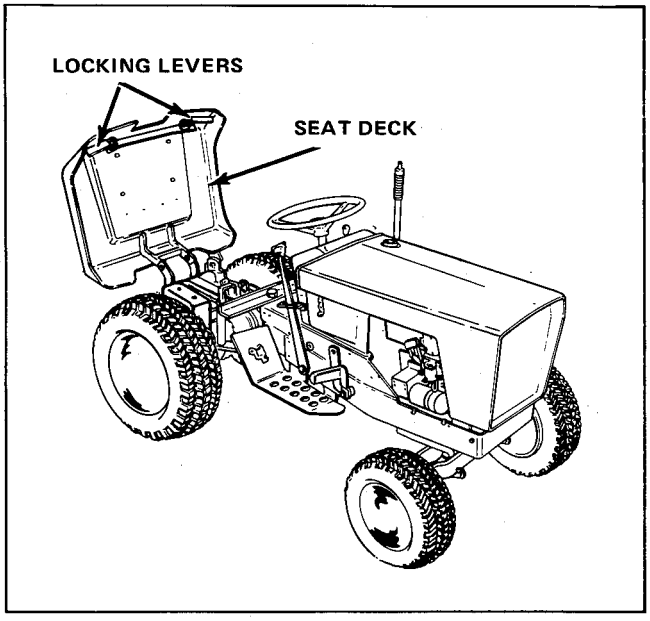


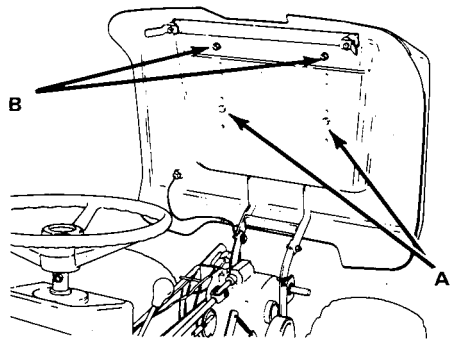
Figure 19. Raising the Seat Deck

ADJUSTMENT PROCEDURES

Seat Adjustment

The seat may be moved forward or backward to any of four different positions to suit different sized operators. To move the seat, proceed as follows:

1. Raise the seat deck.
2. Remove the two capscrews and lockwashers (item A, figure 20).
3. Remove the two nuts and lockwashers (item B).



A. Capscrew and Lockwasher (Two Places)

B. Nut and Lockwasher (Two Places

Figure 20. Seat Adjustment

NOTE

The rubber seat connectors (2) are used as spacers between the seat and seat deck when using the two front sets of mounting holes, When using one of the two rear sets of mounting holes, unscrew the connectors and install them from under the seat deck into the seat. In this way the rubber cushions will be under the seat deck. The hardware not used can be stored on the connector studs.

4. Move the seat to the desired set of mounting holes.

5. Install and tighten the lockwashers and nuts (item B).

6. Install and tighten the lockwashers and capscrews (item A).

7. Lower and lock the seat deck in place.

Clutch Free Travel

If the main drive belt does not engage or disengage properly, the clutch free travel may be incorrectly adjusted. To check the clutch free travel, raise the seat deck. Then pull the clutch-brake pedal fully up and back and measure the gap between the nut (item D, figure 21) and the rod guide (item C). If this gap is not 3/8 inch (9.5 mm), adjust the clutch-brake travel as follows:

1. Loosen the two nuts (items D and E, figure 21).

2. While holding the clutch-brake pedal fully up and back, turn the adjusting nut (item D) until the gap between it and the rod guide (item C) is 3/8 inch (9.5 mm).

3. Hold the adjusting nut (item D) at the correct measurement and tighten the locking nut (item E) to it.

4. Close the seat deck.

Transmission Neutral Adjustment

When the transmission control lever is in its neutral notch, the tractor should not creep forward or backward. If it does, adjust the transmission as follows:

1. Stop the tractor engine and place the transmission control lever in its neutral notch.

2. Raise the seat deck.

3. Check roller (item G, figure 21). The roller should be centered on the neutral mark of the cam (item H). If it is, proceed directly to step 7. If it is not centered, continue to step 4.

4. Loosen, but do not remove, nut (item F).

5. Adjust cam (item H) to center neutral mark on roller. Then hold cam while retightening nut (item F).

6. Lower seat and start engine. If tractor does not creep, omit remainder of this procedure. If creep is still present, continue on to step 7.

7. Stop the engine and remove the key. Block up the tractor so both rear wheels are free of the ground.

WARNING

For your personal safety, keep hands, clothing, and hair away from moving parts. Belts pulleys, and rear wheels will be in motion during the remainder of the adjustment.

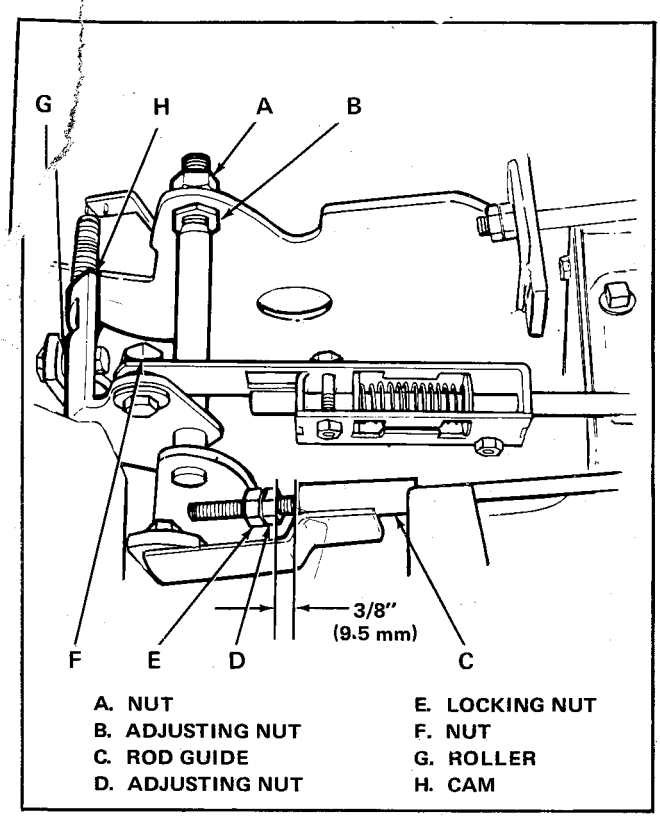


Figure 21. Clutch Free Travel and Transmission Neutral Adjustments

8. Start tractor.
9. Raise seat deck.
10. Loosen nut (item A, figure 21).
11. Turn adjusting nut (item B) in direction opposite wheel movement until creep stops.
12. Hold adjusting nut steady and tighten nut (item A) to secure adjustment.
13. Stop the engine, close the seat deck, and lower the tractor.

Parking Brake Adjustment

The parking brake should prevent the tractor from rolling when the engine is stopped. Adjust the parking brake as follows:

1. Loosen the jam nut (item A, figure 22).
2. With the tractor on a level surface and the wheels blocked to prevent tractor movement, release the parking brake by pushing the handle (item B) down.
3. Rotate the parking brake handle one complete turn in a clockwise direction to tighten the brake.
4. Check the adjustment by setting the brake. If it is difficult to set it is too tight. If it is too loose, return to step 2.
5. When proper adjustment is obtained, tighten the jam nut.

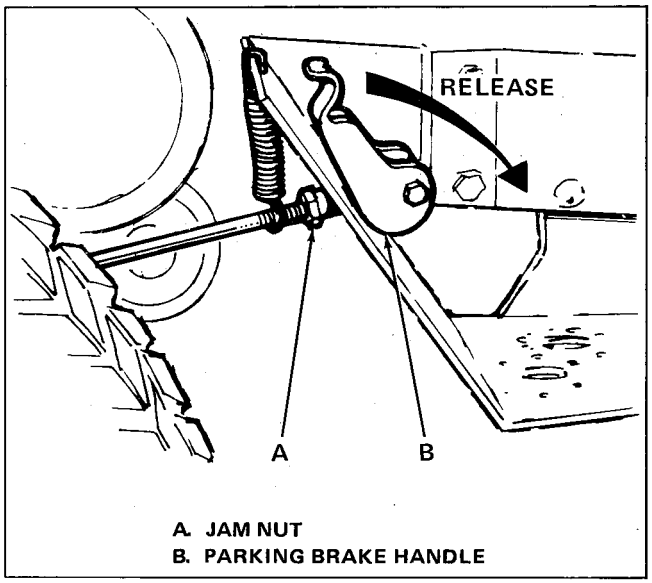


Figure 22. Parking Brake Adjustment

Foot Pedal Adjustment

The foot pedal brake may require adjustment if depressing it fully fails to stop the tractor. Perform this adjustment as follows:

1. Adjust the parking brake if you have not already done so.
2. Set the parking brake and open the seat deck.
3. Loosen the two nuts (items B and C, figure 23).
4. Turn the adjusting nut (item C) until the gap between it and the rod guide (item D) is 1/2 inch (13 mm).
5. Hold the adjusting nut (item C) still and tighten the locking nut (item B) to it.
6. Depress the clutch-brake pedal until the adjusting nut (item C) just touches the rod guide (item D). The drive belt (item A) should now be slack and free of the idler pulley. If not, check the clutch free travel adjustment.
7. Close the seat deck.
8. Start the tractor and test operate the brake. If the brake still does not stop the tractor, return to step 2 and repeat the adjustment procedures to reduce the gap in step 4 by 1/8 inch (3 mm).

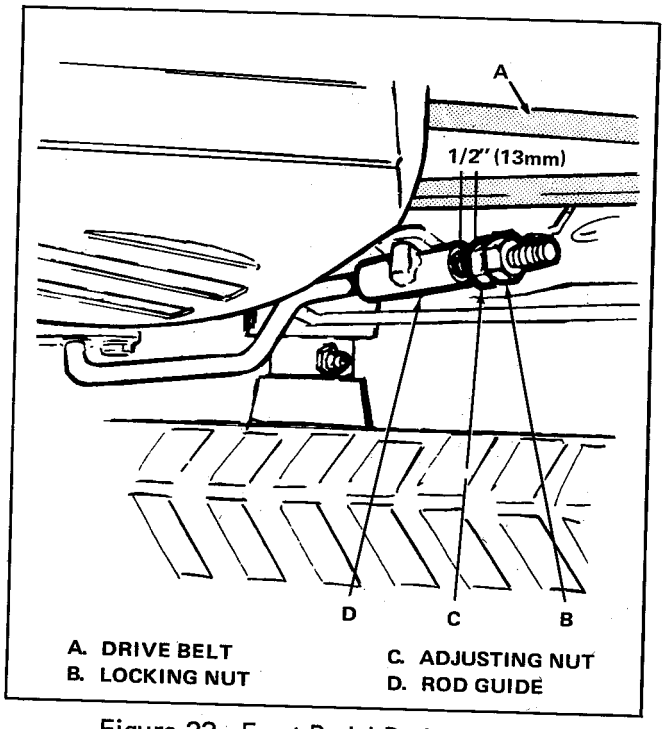


Figure 23. Foot Pedal Parking Brake

PTO Clutch Adjustment (All Models)

To check the PTO Clutch Adjustment, raise the seat deck. Then observe the movement of the pulleys (item C, figure 24) in relation to the clutch plate (item D) as the PTO clutch lever is moved from the engaged to the disengaged position. The pulley movement should be 1/8 inch (3 mm). If not, adjust the PTO clutch as follows:

1. Set PTO clutch lever to engaged position.
2. Loosen the locking nut (item B).
3. Turn the adjusting nut (item A) slightly clockwise to increase pulley travel or slightly counterclockwise to decrease pulley travel.
4. Turn the adjusting nut still and tighten the locking nut to it. Repeat the check and readjust if necessary.
5. Close the seat deck.

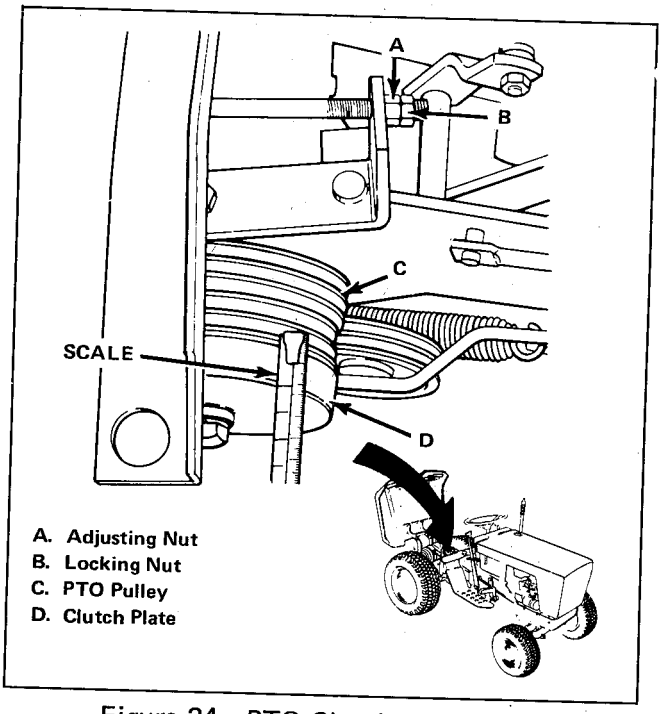


Figure 24. PTO Clutch Adjustment

Specifications

ENGINE	7012 H	MAKE: Kohler — BORE: 3-3/8 inches (85.7 mm) MODEL NO.: K301S — STROKE: 3-1/4 inches(82.5 mm) HORSEPOWER: 12 — DISPLACEMENT: 29.07 Cu. In. (476.6 cc) CYCLES: 4 CYLINDERS: 1 — CRANKSHAFT: Horizontal
	7016 H	MAKE: Briggs & Stratton — BORE: 3-9/16 inches (90.5 mm) MODEL NO: 326437 — STROKE: 3-1/4 inches (82.5 mm) HORSEPOWER: 16 — DISPLACEMENT: 32.4 Cu.In. (530.9 cc) CYCLES: 4 CYLINDERS: 1 — CRANKSHAFT: Horizontal
	Electrical System	Dual Circuit Alternator
		12 Volt – 45 Ampere Hour Battery
		Key Ignition Switch
		Ammeter on Instrument Panel
	Ignition	TYPE: (7012H) Battery Ignition w/ Breaker Points
		TYPE: (7016H) Flywheel Magneto w/Breaker Points
		Dust Proof Breaker Enclosure
	Governor	TYPE: (7012 H) Mechanical Type with External Adjustment
		TYPE: (7016 H) Adjustable, Mechanical, Running in Oil
		RANGE: 3700 R.P.M. No Load
	Air Cleaner	TYPE: (7012 H) Dual Dry Paper and Dry Foam Elements
		TYPE: (7016 H) Dual Dry Paper and Oiled Foam Elements
		ELEMENTS: (7012 H) Reusable Foam and Replaceable Paper
		ELEMENTS: (7016 H) Reusable Polyurethane Foam and Paper
	Crankcase	BREATHER: Ventilated through Carburetor
		LUBRICATION: Gear Impeller System
		OIL CAPACITY: 2 Quarts (1.9 L)
	Fuel Tank	MATERIAL: Non-Corrosive, Molded Synthetic Material
		Fuel Level Gauge Built into Filler Cap
		CAPACITY: 3 Gallons (11.4 L)
	Muffler	Quiet Compact, Low Back Pressure
TRANSMISSION	Type	Hydrostatic Pump and Motor
		Air Cooled by Own Fan
	Pump	Variable Displacement Axial Type
	Motor	Fixed Displacement Reversible Axial Type
	Hydraulic Fluid	TYPE: Type F Automatic Transmission Fluid or Dexron II
		RESERVOIR: Final Drive Gear Case, 3 Quart (2.8 L) Capacity
		FILTER: Cartridge w/25 Micron Rating, full flow,w/o anti-drain back.
	Control	Spring Dampened Single Lever
		Neutral Detent with Safety Start Switch
		Free Wheeling Valve and Latch for Manual Tractor Movement

TRANSMISSION (Cont'd)	Speed Range at 3600 R.P.M. Engine Speed	Continuously Variable, Forward or Reverse, without Clutching or Shifting	
		FORWARD: 0 to 7 MPH (0 to 11.3 km/h)	
		REVERSE: 0 to 4 MPH (0 to 6.4 km/h)	
	Final Drive	Hardened Spur Gears	
		Rolling Contact Bearings	
	Differential	All Gear, Controlled Traction Type	
CHASSIS	Frame	Channel, Electrically Welded, Heavy Gauge Steel	
		POWER TAKE-OFF POINTS: Front, Center, Rear	
		ENGINE MOUNTING: Above Front Axle	
		PIVOT POINT LOCATION: At Front Axle	
	Rear Wheels	PNEUMATIC INFLATION PRESSURE: 6 to 8 psi (41 to 55 kPa)	
		TIRE SIZE: (7012H) 23 - 8.50 x 12 Turf-Type	
		TIRE SIZE: (7016H) 23 - 10.50 x 12 Turf-Type (Option)	
		TIRE SIZE: (7016H) 23 - 10.50 x 12 Agricultural Type (Option)	
	Front Wheels	PNEUMATIC INFLATION PRESSURE: 12 to 15 psi (82 to 103 kPa)	
		TIRE SIZE: 16 x 6.50 - 8	
	Accessibility	Hood Tips Forward. Seat Deck Tips Rearward.	
	Seat	TYPE: Molded – Foam. COVER: Black Vinyl. POSITIONS: 4	
	Turning Radius	INSIDE REAR TIRE: 30.5 Inches (775 mm)	
CONTROLS	Steering	Full Circle Steering Wheel	
		SYSTEM: 4.14-to-1 Ratio, Gear and Sector	
	Clutch-Brake Pedal	LOCATION: Right Front	
		CLUTCH: Soft Action, V-Belt Clutch	
		BRAKE: External Band Type	
		Parking Brake Lock Standard Equipment	
	Location	IMPLEMENT LIFT LEVER: Left Side	
		POWER TAKE-OFF CLUTCH LEVER: Left Side	
		TRANSMISSION CONTROL LEVER: Right Side	
		Ignition Key Switch	On Instrument Panel
		Light Switch	
		Throttle Lever	
		Choke Control	
		Ammeter	
		PARKING BRAKE LOCK: Lower right of Seat	
DIMENSIONS	Overall Length	67 Inches (1.7 m)	
	Overall Width	37.5 Inches (952 mm)	
	Height	TO TOP OF DASHBOARD: 35.5 Inches (902 mm)	
		TO TOP OF STEERING WHEEL: 39.25 Inches (997 mm)	
	Wheel Base	48.1 Inches (1.2 m)	
TUNE-UP DATA	Spark Plug Type (*) indicates type for areas subject to radio noise limitations	7012 H	Autolite: AL7B
			Champion: H - 10 or XH - 10*
		7016 H	Autolite: A7N(short) or A71 (Long) or AR7N (*)
			Champion: CJ-8 (short) or J-8 (Long) or RCJ -8 (*)
	Spark Plug Gap	7012 H: .025 Inch (.64 mm)	7016H: .030 (.76 mm)
	Ignition Point Gap	.020 Inch (.50 mm)	

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

Operating with Attachments

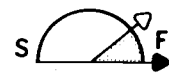
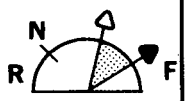
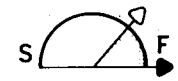
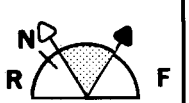
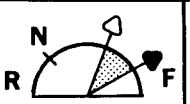
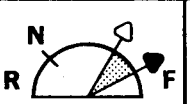
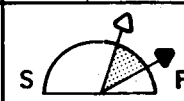
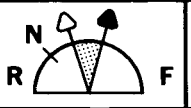
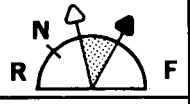
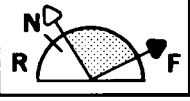
Attachment	Engine Speed Control	Hydrostatic Lever Position	Approx. Ground Speed (MPH)	Required Accessories and Options	Recommended Accessories and Options
Rotary Mower (Smooth terrain-normal grass)			3-5		
Rotary Mower (Rough terrain-heavy or wet grass)			2-4		
Snow Thrower (Use fast ground speed in light snow, slow in wet, heavy snow)			3-4 or 1-2		Tire Chains. 4 Rear Wheel weights. Power Lift Kit. Winterizing Kit.
Snow Plow/ Dozer Blade			3-5		Tire Chains. 4 Rear Wheel weights. Winterizing Kit for snow plowing.
Grader Blade			3-5		4 Rear Wheel Weights
Sickle Bar			3-5		
36" Rotary Tiller			1-2	Rear Lift Kit	4 Rear Wheel Weights Power Lift Kit. Tire Chains
38" Rotary Tiller (Heavy Duty)			1-2	Rear Lift Kit Front Wheel Weights Rear Wheel Weights Electric Lift Kit	Tire Chains
Moldboard Plow			2-3	Rear Lift Kit One-Point Hitch	4 Rear Wheel Weights
Cultivator **Spring Tooth Harrow**			2-5	Rear Lift Kit One-Point Hitch	4 Rear Wheel Weights

Figure 25. Attachment Chart

Attachment Operation on Slopes

For your personal safety, always operate your tractor with attachments up and down the face of slopes, and never across the face. Use slow tractor ground speeds on slopes, and use extreme caution when changing direction on any slopes. Do not start or stop suddenly on slopes.

Two rear wheel weights are required to operate your tractor with front or mid-mounted attachments on slopes greater than 20 percent (11.3 degrees); use two front wheel weights for rear mounted attachments. Except for the 38" heavy duty tiller, never operate your tractor with attachments on slopes greater than 35 percent (19.3 degrees), which is a 3-1/2 feet rise in 10 feet forward, and always in an up and down direction. For the 38" heavy duty tiller, never operate on slopes greater than 27 percent (15 degrees), which is a 2.7 feet rise in 10 feet forward.

See your attachment Operator's Manual for more detailed information on normal operation requirements and procedures.

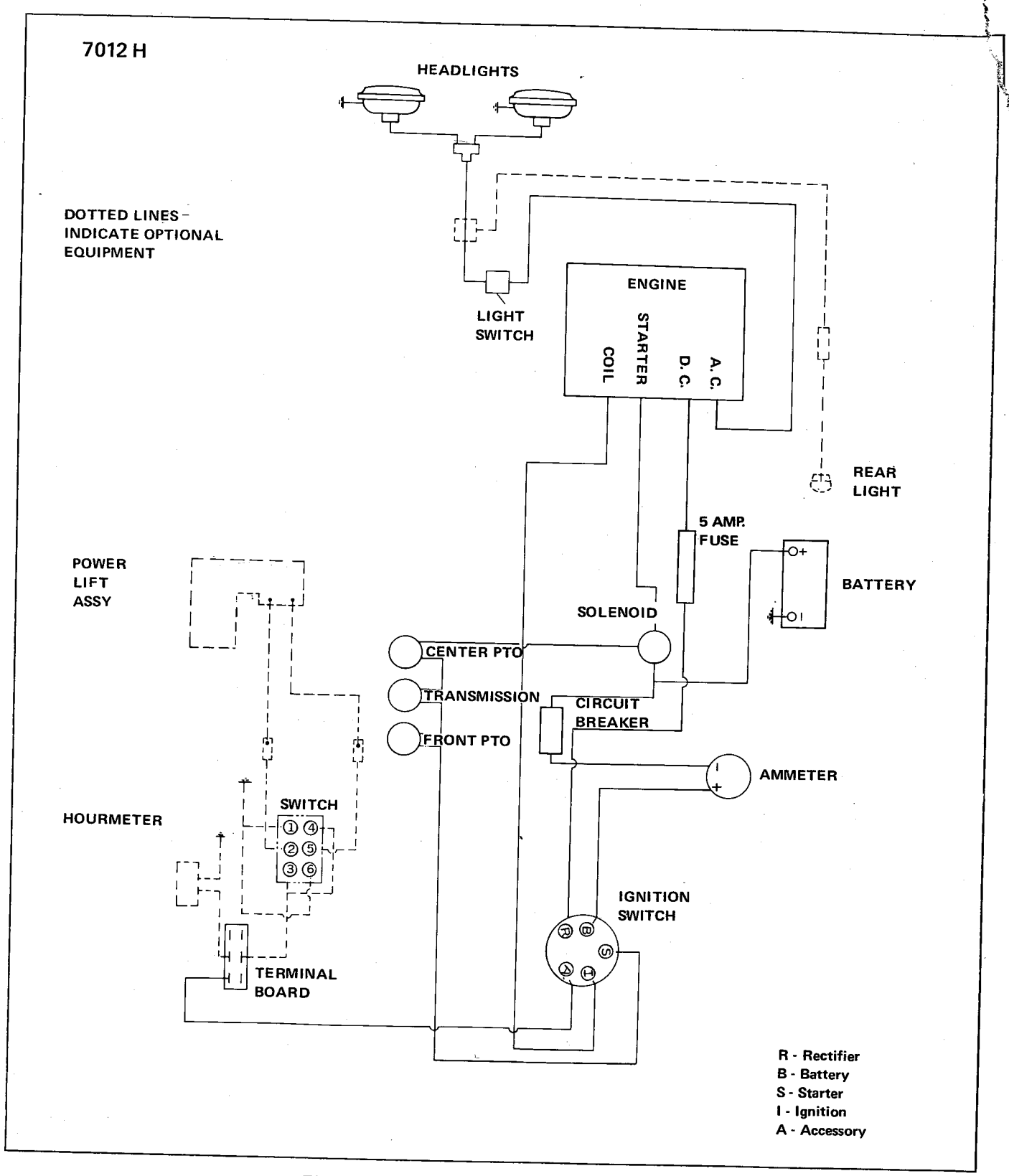


Figure 26. 7012 H Electrical Schematic

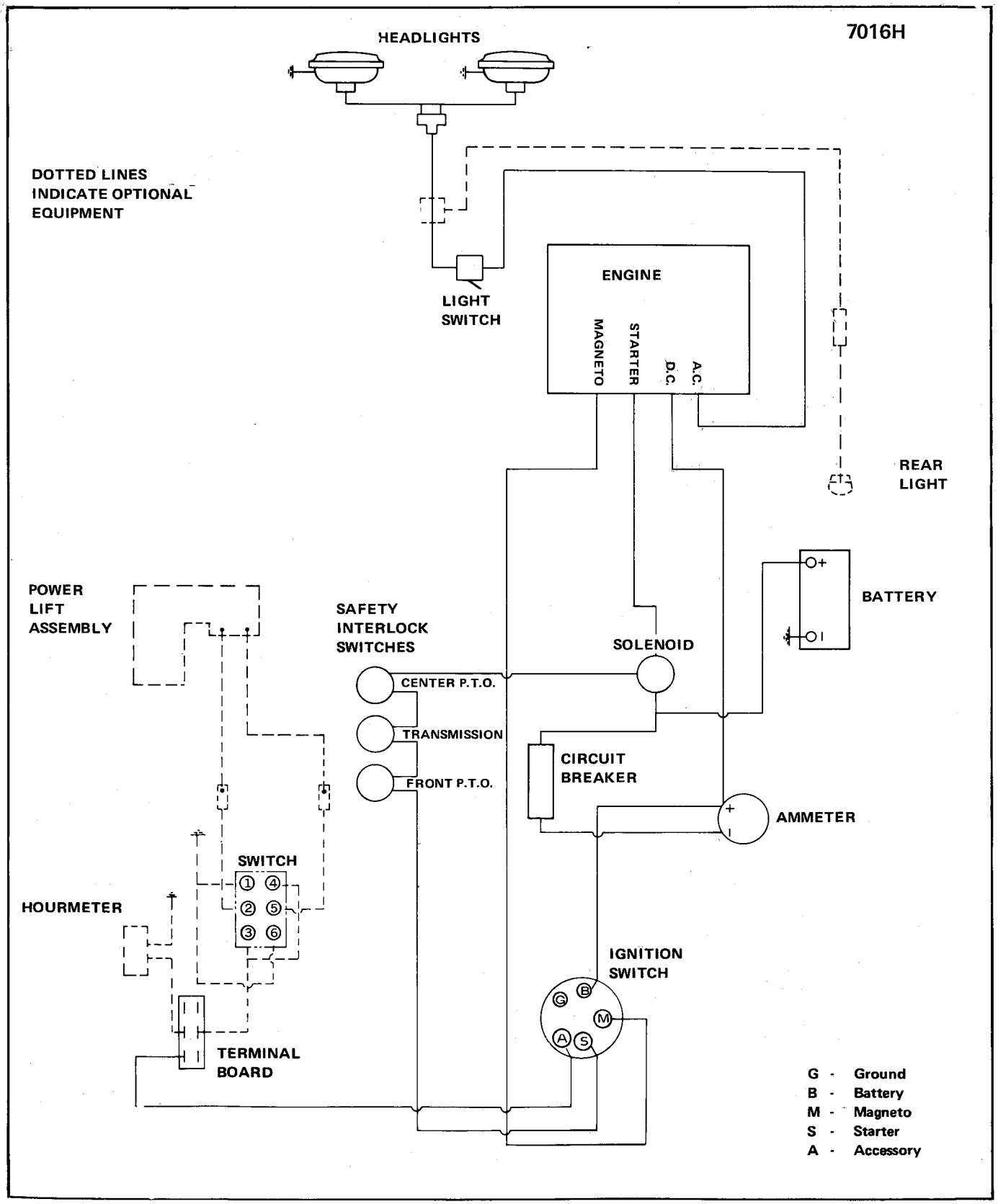
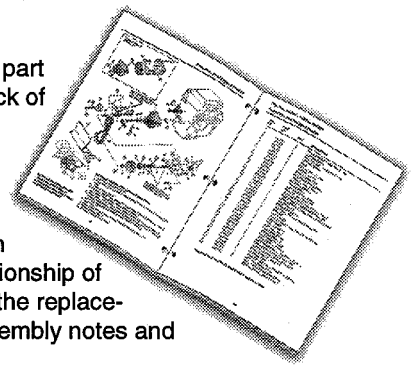


Figure 27. 7016H Electrical Schematic

NOTES

NOTES

Additional Technical Literature Available



Operators Manuals

Additional copies of this manual are available, (and as part of our product support commitment, we maintain a stock of printed operators manuals going back over 25 years!)

Parts Manuals

Fully illustrated parts manuals are also available — these manuals show all of the product's components in exploded views ("3D" illustrations which show the relationship of the parts and how they go together), as well as giving the replacement part numbers and quantities used. Important assembly notes and special torque values are included in these manuals.

Repair & Service Manuals

In addition, for many models, we have in-depth repair & Service Manuals available, which take you step-by-step through maintenance, tear-down, component replacement and re-assembly procedures.

For the available manuals applicable for your model, contact the Customer Publications Department at 414-284-8519. Have the information listed in the box at the right available when phoning in your request.

MasterCard VISA

Model: _____

Mfg. No.: _____

Your Name: _____

Address: _____

City, State, Zip: _____

Visa/Mastercard No.: _____

Card Expiration Date: _____